

THE METHOD OF MATHIEU

OF THE THEORY OF DIFFERENTIAL EQUATIONS

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**CLASS-ROOM METHOD  
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# CLASS-ROOM METHOD AND MANAGEMENT

*By*

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## PREFACE

The many books now available on the teaching of various school subjects agree in two important particulars. *First*, each differs from all the others in everything that goes to make a book: in standpoint, mode of treatment, terms used, and practical outcome. No thread of unity leads their diverse points of view to focalize on a common problem. *Second*, helpful as many of these texts are, no one of them undertakes any thoroughgoing organization of the central factors involved in a fundamental system of method. The result is that we have many "methods," but come perilously near having no *method* of teaching.

The present work sets itself the rather ambitious task of seeking out and organizing the underlying principles that govern all good method. For method can be placed on a rational basis. In its broader aspects it rests on perfectly definite and simple principles. These principles can be clearly defined. They are easily grasped and may be intelligently applied to the teaching of any subject. Not content with a theoretical statement of the general principles of method, the treatment carries them across to the work of the class room and applies them definitely and concretely to the teaching of the common-school subjects.

*Part I*, which is devoted to general method, discusses the four cardinal elements which comprise method. These are (1) the determination of *aim*; (2) the selection of *material*; (3) the *organization* of subject-matter for instruction; (4) *presentation*, or the technique of instruction. The first question that any teacher must ask is, *what is my aim*, what results do I seek to accomplish in the mind and experience of the child through the subject I teach? The second question is, *what material* will best accomplish this aim? The next

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is, how can I best *organize* this particular material to accomplish the aim set up? And finally, how through instruction can I best *present* this material to make it effective? These are the four questions that must be answered for every subject. They are the questions that underlie all rational method when broadly conceived.

The aim of education, and hence of any subject in the curriculum, is to be defined in terms (1) of *fruitful knowledge*, (2) *right attitudes*, (3) *applied skills*. Hence the question for each subject becomes how to *select*, *organize* and *present* such material as will result in the desired knowledge, attitudes and skills. The answer to this problem for any particular subject *constitutes its method*. From this point of view method becomes very definite and concrete, and its application to school-room practise very immediate and specific.

*Part II* builds on the foundations already laid and outlines the method of the elementary subjects. In each case it asks the question (1) what is the aim of this branch—what *fruitful knowledge*, what helpful *attitudes*, what *applied skills* should it give the child; (2) what particular *subject-matter* must be used to accomplish these aims; (3) how shall I *organize* and *teach* this material to reach the desired aim. In answering these questions there has been an attempt to avoid mere dogmatism and to use the best current points of view in education.

*Part III* deals briefly with the problems of class-room management. Teaching implies control of the conditions under which instruction is given. Not to be a good manager is to defeat the best of teaching method. Good class-room management will supply favorable conditions (1) for teaching and learning, and (2) for promoting the development of character.

G. H. B.

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**CLASS-ROOM METHOD  
AND MANAGEMENT**



# Class-Room Method and Management

## Part One: Foundation Principles

### CHAPTER I

#### METHOD IN EDUCATION

**M**ETHOD in education—but is there such a thing as method? Or are there of necessity as many “methods” as there are teachers? Must not each of us have his own method and make it different from the method of any one else? Must there not be as many different methods as there are subjects to teach, each subject demanding its own special method after its kind? Must I not employ as great a number of methods as I have children in my class, adapting my method to the mind and grasp of each child? And does not all this so complicate the question of method that it resolves itself into a hopeless tangle to which we can find neither head nor tail?—So why waste time on the subject!

#### *The Importance of Method*

We shall hope to find answers to these questions as the text goes on. But the very fact that such questions naturally arise and that they seem to imply a negation of method suggests the need of a thoroughgoing study of the principles underlying it. For we can not thus put the problem of method lightly aside. Nor must we evade it because it appears difficult. The ques-

tion of method is fundamental in any scheme of education. It lies at the basis of all good teaching. Its validity measures the worth of instruction, and its excellence conditions the result of effort expended by the pupils in learning. Not to employ good method in the class room is in large degree to render futile all other school facilities, however good and complete.

**The function of method.**—This is true because method finds its function at the most crucial point of the entire process of education—where the teacher meets the child face to face in the business of teaching and learning. Method motivates and guides all our instruction. It selects material and determines emphasis. It adapts what we teach to the learner's mind and seeks the adequate incentives to effort. It underlies the whole question of aim and the means of its attainment in teaching. And it is for these things that we erect school buildings, provide courses of study and maintain schools.

It is probably not too much to say, therefore, that our final measure as teachers is best determined by our ability to conceive and *use* the fundamental principles of method. If we were all able to employ as good method in our instruction as is now known through the researches of psychology and the science of education, it is likely that fully one-half the pupil's time might be saved, or his progress doubled. This means, if the estimate be true, that it is within our power, through the use of good method, to *double the efficiency of our educational system!*

### *Method Not Standardized*

In spite of the fundamental importance of method it is yet in a crude state. In few if any fields of instruction has method been *standardized*; that is to say, there is no

general agreement on the question, either as to theory or practise. Nor does this apply to new fields of instruction alone, but also to subjects such as language and mathematics, which have been in the curriculum for centuries. On no other phase of educational theory or practise is there so little agreement and so much difference of opinion as on method. Equally successful teachers use very different methods, while those of vastly different degrees of efficiency may be employing the same method. In fact there are not a few skeptics who scoff at the whole question of method. Some go so far as to say that what one knows himself he can teach to others, without troubling himself about any details of method. But thoughtful teachers know better than this, and those who make such claims are usually the best refutation of their own false position.

**Many conflicting methods.**—The feeling on the part of teachers that method, even if still in a nebulous stage, is of primary importance has brought about the invention of many diverse “methods” in almost every field of instruction. Witness all the transformations in method from Comenius down to Montessori. So-called methods spring up like mushrooms overnight to flourish for a season, and then fall away to be heard of no more. Who has not been bewildered and perchance puzzled by the conflicting arguments for rival methods for the teaching of language, nature study, number, or what not! And who has not seen the methods advanced so successfully and defended so valiantly this year superseded next year, or next decade, by other methods as promising, but as short-lived! One has but to recall certain famous “methods” greatly in vogue a few years ago, but now to be found only in the scrap-heap of educational theories, to understand the ephemeral nature of many of the methods that have been invented.

The trouble has been that most of these so-called methods

have lacked a foundation of psychological and educational principles, and so have failed in the test of use. They have been founded on the sand of mere personal opinion or individual aptitude and could not stand the storms of criticism or even the more moderate strain of general service in the class room. They have lacked vitality and permanence because they did not successfully meet the needs of the child.

### *Can Method Be Standardized*

Is there, then, no such thing as *method*, but only an eternal succession of short-lived "methods"? Must we all go at our instruction more or less blindly, depending on an empirical cut-and-try process to discover what is valuable and what is futile in our teaching? Can we reach no common ground of agreement in instruction simply because there is none? Must the science and philosophy of education admit that this, the most fundamental of all questions in teaching, is, for the present at least, beyond the reach of help or guidance? Are there no principles whose validity and value have been tested and upon which we may build a more permanent and trustworthy structure of method than has yet appeared? Must all our progress in teaching be won anew by each novice at the expense of the children he teaches? *Is there no hope of standardizing method?*

**Standardizing method.**—Method can never be standardized in the sense of making it an iron-clad set of rules or a fixed mode of procedure in teaching to be obediently followed by all alike. The infinitely diverse personalities of both teachers and pupils, and the many aspects and varieties of subject-matter to be taught make this wholly impossible. Yet there are certain fundamental principles upon which effective and valid method can be built. And these are entirely susceptible of discovery and analysis.

The standardizing of method will therefore depend on the discovery and application of a proved set of guiding principles, rather than on agreement as to any set of minor details. While there can be no such thing as a method to be adopted and used in precisely the same fashion by all teachers, there are reasonably definite laws upon which every teacher can base his instruction. And, knowing these principles and laws, we can each apply them to our particular subject and class. While latitude must always be left for the individuality of the teacher, and while as far as details go there will of necessity be as many different modes of teaching a subject as there are teachers, yet there is a matrix of true *method* out of which all *methods* should grow.

**Foundation principles of method.**—The principles of method, lying, as will be shown later, deep in the needs and demands of society on the one hand and in the nature of the learner on the other, are broad enough to include all the fields or subjects of instruction. Their range and scope are sufficient to embrace all ages and stages of learning from the kindergarten to the university. The principles of method, once formulated into a usable program may, therefore, be of service to all teachers, no matter what their field, or the stage of advancement of their pupils.

But we must understand from the first that no system of method can be devised to take the place of insight and effort on the part of the teacher. Far from being a ready-made device capable of being put into use without our understanding its structure or intent, true method is rather a means by which we more skilfully use our own powers of interpretation, thought and skill in teaching. Instead of taking from us the necessity for initiative, method rightly conceived, opens the way for individuality and invention; instead of being a limitation, it becomes a condition of freedom. Not a piece of self-operating machinery, therefore,

but an instrument of instruction created by our own intelligence and guided by our mastery is what we seek through method.

### *The Teacher's Knowledge of Method*

It is the teacher's business to know the principles of method. The industrial world has discarded blundering empiricism as a means of reaching results. The methods and processes used in the production and distribution of wealth are guided by carefully determined scientific laws and formulas. Nothing in either of these fields is left to chance or accidental success. Efficiency and the elimination of waste are the watchwords of commercial activities. Business, commerce and industry have quit guessing and gone to *finding out*.

**Scientific spirit demands better method.**—Indications that this same spirit is entering our system of education are not lacking. But only a beginning has been made in determining our educational procedure by scientific laws now available. As teachers we need more fully to realize that preparation for teaching involves more than a mastery of the field of knowledge to be taught. We need to see that teaching requires not only a knowledge of the matter of instruction, but also of its technique, that is, of its *method*.

Nor is the obligation at this point less upon the administrators of education—the superintendents, principals and supervisors—than upon the teachers. Under our present educational organization it will be impossible, at least within any reasonable time, to have all teachers professionally trained. But all who supervise or administer education should be professionally educated. Supervision has heretofore devoted itself very largely to the oversight of fiscal and physical matters and to problems of organization and

control. Superintendents have been chiefly *business managers*. There has been comparatively little supervision of *teaching*; and teaching, as already shown, is the *crux* of the whole educational process, the point at which our schools finally succeed or fail. The educational supervision of the future must therefore extend to matters of *method*; it must be able to advise, counsel and help the teacher in the actual work of instruction. The obligation that this point of view places on the administrator is obvious; he must be a master of *method*, as well as of the business and organization phases of education.

### *The Functional View of Method*

While the analysis of the elements entering into method will be made in detail in a later chapter, it will be serviceable to consider at this place the view-point from which to approach the subject.

**Method measured by what it will do.**—We may look on almost any concept, either (1) from the point of view of its *structure* or (2) of its *function*. We may concern ourselves with how a thing is *made*, or with what it *does*. The criterion for the judging of method is the *functional*—*what will the method do* in advancing the learning of the pupil.

The failure of many of the attempts at formulating methods have been due to conceiving it from the wrong point of view. Method has too often become an end in itself instead of a means. The inventor of a "method" has looked on his creation with pride and said, "See what a beautiful piece of educational machinery! Note its structure. See how perfect its adjustment, part to part. How smoothly the joints fit! How well it is fitted to the subject-matter which it sets forth."

But lo! the beautiful piece of educational mechanism is

soon laid aside and heard of no more. Where is the trouble? Was not the mechanism well devised; did not the joints fit; were not the parts admirably adjusted? Yes, all this was very true, and yet the method proved futile; for it was built on plans and specifications that had in mind a certain *structure*—a bit of mechanism calculated to accommodate some section of *subject-matter*. The maker of the method had not conceived his method as a means of fitting into the needs and demands of the *children* who were to learn the matter. He had fixed his thought on the *mechanism* instead of on the *working* of his creation—on its structure rather than its function. This is all to say that the inventor took a *logical* instead of a *psychological* point of view of method. He was concerned with the arrangement of material rather than with the activities and needs of growing minds.

**The needs of children in their learning determine the method.**—The requirements of the learner and not of the material are the basis of all true method. Method must be primarily psychological instead of logical or mechanical. Indeed method was defined by Froebel as *the psychologizing of subject-matter*. The question then becomes, not how can a given amount of material be arranged in its logical divisions and sections to show the relations of a finished whole, but how can this vital subject-matter be organized and presented so as to afford the learner the most natural mode of approach to its mastery? What method shall I take to stimulate and guide the child in the unfolding of his powers and the gaining of the knowledge and attitudes required in his living? How can I teach *children* instead of teaching arithmetic, grammar or Latin?

The practical outcome of the difference between the logical and the psychological type of method will be further discussed in a later chapter.

Summarizing, we are obliged to conclude that, though the question of method presents many difficulties, it must be solved if teaching is to keep pace with other professions; that, while method is so far but little standardized, it can nevertheless be standardized under broad fundamental laws and principles; that the failure to work out permanent and fruitful methods for the various school subjects has come from neglect of these fundamental laws and principles, and not from insuperable difficulties in the problem itself; and finally, that no teacher is prepared to teach and no superintendent to direct who does not have a working mastery of the principles of educational method.

### QUESTIONS AND PROBLEMS

1. In how far can you say you have a *method* of teaching the different subjects? How did you come by your present method: copy it from another teacher, appropriate it from reading or instruction, or consciously *develop* it out of your own observation, experience, study and the needs of your class? Which is the best way?

2. What is the distinction between *method* and *device*? What is the test of a good method or device? May a method be easy for the teacher to handle, and yet not valuable to the class?

3. It is said that we get only about fifteen per cent. of the energy in coal actually applied in the locomotive engine. What proportion of the available ability of your pupils do you estimate is left latent through your inability to set all of their powers at work? How does this bear on the problem of method?

4. Examine some of the popular "methods" now in use to determine whether the method seems to have been conceived to accommodate a certain range of *material*, or to fit the needs of the child's mind.

5. In your experience with superintendents and principals, in how far have you found them helpful in connection with your *teaching*—the method and instruction side of your work?

## CHAPTER II

### METHOD AND THE POINT OF VIEW

**B**EFORE taking up a detailed study of method let us briefly consider the best mode of approach to our problem. One's understanding and use of method depend primarily on the point of view from which he looks on education as a whole. What is education? What is its process and what its purpose? Just what changes are taking place in the individual when he is in the process of being educated? And, by the same token, how shall we know when he has become educated; what are the marks of an educated man? Our answer to these questions will depend on our educational point of view—on the part we believe that education should play in the life of present-day men and women.

**A definite purpose.**—The questions we have asked naturally lead to certain others: What part shall the particular subject or field you or I may teach play in education—in the education of our individual pupils? What is the function of our subject as educational material? Why should I be teaching history, or you be teaching language, and the children studying these subjects rather than some other section of human culture? What should be the *effective outcome*, the educational result, of the language, the number, the science, or the history that we teach our pupils? In a word, what definite effects do you and I seek and expect through our instruction? What specific changes do we aim to secure in our pupils which otherwise would not occur?

*The Two Factors in Education*

It is not necessary that we should give a full and formal answer to our questions at this point. The answers will develop as our study proceeds. But at the very outset we must remember that there are the two fundamental factors, and not, as many have assumed, but one to be dealt with in our teaching. The *child*, as well as the *subject-matter*, is to be taken into account.

**The objective of teaching.**—As Professor Adams reminds us, “Verbs of teaching govern two accusatives, one of the person, another of the thing; as *Magister Johannem Latinem docuit*—the master taught John Latin.” And John comes first. Our function as teacher is primarily to serve as an intermediary between these two factors—John and his Latin. We are to bring the child into contact with certain matter to be learned—the culture material, or past experience, of the race. Out of the action and interaction of these two, education is to come. Out of the child’s response to this material, the way he grapples with it, masters it, finally *lives* it, come his educational growth and development.

To illustrate this fundamental truth still further: The child comes into the world, indeed comes into the school, with much potential and very little actual capital. Nature has through heredity endowed him with all the powers and capacities he will ever have. But these are still in embryonic form. They lie relatively dormant, waiting for the awakening that comes through the stimuli of the world about and the experiences of the school. Given just the right touch at the opportune moment, and these potential powers, now but a promise, will spring into dynamic abilities, actively at

work in the world. Left without the necessary stimuli, none of the capacities supplied by nature will reach their full function, and many will lie impotently fallow.

**Education the producing and directing of changes.**—Let us not, on the other hand, be deceived. Education *creates* no power or capacity; it only *develops* what nature, through heredity, has planted in the individual. What is evolved through the process of education must first have been involved by biological transmission from ancestry, near and remote.

As Thorndike so skilfully insists, all education may be looked on as a process of effecting certain *changes* among the original powers and capacities of the individual. Some of these original tendencies are, through education, to be encouraged, strengthened and rendered more certain; they are to be trained and set at work in the great social process of which we are a part. Other tendencies are to be checked, suppressed, or replaced by more useful ones. In short, through education the desirable potentialities of the child are to be made actual, and the undesirable ones eliminated to the largest possible degree.

### *Subject-Matter an Instrument in the Teacher's Hands*

True it is that many of the most fruitful educational stimuli come to the child from wholly outside the school without the help of teacher or curriculum. The influence of the relations and duties of the home, the associations of playmates, and the multiform experiences in the great world of nature and of people can not be overestimated. No small part of the child's education arises in these unorganized agencies of education—must arise in them because they alone supply the stimuli necessary to many of the original powers of the individual.

Yet it is equally true that these informal agencies can not of themselves successfully educate the child. There are some powers that require more thorough training than they can get outside the school. There are certain abilities that demand special treatment to make them efficient. There are fields of knowledge, phases of attitude and interests, and types of skill that must not be left to chance development by uncontrolled agencies, but must be made secure by consciously planned instruction.

**The function of subject-matter.**—These facts suggest the point of view from which the teacher is to look on the subject-matter he teaches. All subject-matter is to be looked on as a tool or instrument in our hands for *effecting certain changes in the powers and tendencies of the child*. It is to serve as a stimulus for arousing the child's native energies and setting them to work. Through the subject we teach, the desirable qualities and capacities of our pupils are to be aroused, quickened and encouraged, and the undesirable ones checked and repressed. Through our instruction the life and experience of the learner are to be constantly modified the better to fit him into the social activities of which he is a part. Our teaching of history, of science, of literature is to supply the necessary knowledge, attitudes and skills for successful living.

The real meaning of all this is that we *must teach children instead of subjects*. Subject-matter can never be an end in itself. Language, or science, or mathematics, can not be taught for its own sake. However beautiful the language, however true the science, or however perfect the mathematics, the crucial question becomes, what will this subject accomplish in shaping the powers and tendencies of the learner in fruitful directions?

**Subjects as means instead of ends.**—Paradoxically, this point of view demands that we shall never teach *arith-*

*metic, history or language.* We must teach *through* these. They are to our hands what the artist's brushes or the carpenter's saws, planes and chisels are to him—not an end in themselves, but instruments for shaping into more perfect and useful forms the material upon which he works. With this position once taken we shall never be proud or satisfied with having taught our class so much *subject-matter*—so many pages of history, so many books of Cæsar, or so many facts of science. We shall rather inquire, what have these things done for the boy or girl, what has been the *effect* of our teaching and of their learning? We shall realize that in teaching John literature we are not only dealing with two objectives, but that the greater of these is *John*.

### *The Student Versus the Teacher*

Even after full acceptance of the position that the effect on the learner and not the bestowal of so much subject-matter is to be the measure of our teaching it is not so easy to carry this view out in practise. For the manipulation of material is always easier than the stimulating and directing of mind. It is a much simpler thing to teach algebra than to teach John. Any one of fair intelligence can master a subject or a field of knowledge; but it is altogether harder to interpret the effect that this subject is having on the mental process of our pupils. No one has the least trouble to learn arithmetic or geometry, but to discover how to use these in producing the right changes in the native powers and tendencies of a child is infinitely difficult.

**The transformation from student to teacher.**—Most of us, before we are ready for the school room, must have our point of view made over from that of the student to that of the teacher. During the time that we ourselves are learners instead of teachers our powers of mastery and interpreta-

tion are naturally and rightly centered on the thing we are learning. We are studying subject-matter and not thinking of teaching it to others. We grasp and master the material as best we can from the vantage ground of our own interests, intellectual aptitudes and enthusiasms. But the moment we become teachers this must change. We shall not, of course, forget nor lose out of account the importance of the subject-matter we present, but it now ceases to be the primary thing in our thought and interpretation. Instead of being an end in itself it becomes but an implement in our hands, and the developing lives of our pupils stand out as the real end and aim of our instruction.

As Doctor Dewey remarks, the subjects we teach must become so much a matter of second nature to us, be so much part and parcel of our being, that when we stand before the class as teacher all our powers of insight and effort are given to shaping the minds of our pupils. The material we teach is of supreme significance, but its importance is that of instrument or means and *not of end*. The transforming mind of the child defines the aim of our instruction.

**Dangers to the best prepared teachers.**—From one point of view the danger of making the material we teach an end in itself is greater to those who are academically best prepared. The reason for this is not far to seek. The teachers who come from university, college, or even from some normal schools, have for a number of years lived in an atmosphere of *subject-matter*. They have been assigned lessons in it, studied it, recited it, been examined in it, had it lectured to them, and in many other ways had it pressed on them. Their instructors have been specialists in their respective fields, who lived, moved and had their mental being in the field they had espoused. Little wonder that these specialists, immersed in their subjects and deeply attached to them (and who would have them otherwise!), have centered the

thought and affection of their students on the culture material they represent.

It further comes about that the students who develop special aptitudes for certain fields devote themselves to their chosen line still more intensively. Following the inspiration of a favorite teacher or the bent of their own interests and abilities they specialize in the subject they expect to teach. Into this field they delve as deeply as may be, lavishing on it their major attention and effort. Feeling inspired and stimulated by its truths they dwell upon and become familiar with its concepts and lessons and make them a part of their lives. In a word, they fall deeply in love with their subject.

**The right attitude toward one's subject.**—Let it not be understood for a moment that I am criticizing the centering upon one's subject all the enthusiasm, interest and love at his command—as a *student*. Indeed only this attitude toward a field of study can rightly prepare one to teach it. Only the enthusiast can arouse enthusiasm in others; interest is caught by the contagion of other interest.

But when all this is granted the fact still remains that as one passes over from the state of a learner to that of a teacher his point of view must change. He will still love his subject and not less than before; but as a teacher he will prize it *not for its own sake*, nor for what it means to him, but for what he can effect *through it* in the lives of his pupils. He will still be devoted to his field of literature or science or what not; but as a teacher he will cherish it for the changes he can cause it to work in the knowledge, the interests or the attitudes of his boys and girls.

**Right point of view vital to method.**—Until some such point of view as that proposed in this chapter is adopted there is no possibility of any rational approach to the subject of method in its true and broader meaning. For as long as subject-matter is conceived, either consciously or uncon-

sciously, as an end in itself, so long must the *mechanism* or structure instead of the *function* or effectiveness of the method be the criterion of its creation and use. For the material and not the child will then be the center of concern. Until the stimulating, training and directing of the child's powers and capacities instead of the mere lodgment of subject-matter in the mind becomes the aim of our teaching, so long will our "methods" be devised in accordance with mechanical instead of psychological laws—and so be relatively futile.

Shall we then agree as we enter on our study of method, that the point of view from which we conceive education is all-important; that the aim we set up for our particular subject must accord with the aim of education as a whole; that no subject-matter can be taught or learned for its own sake, but only for what it will accomplish in stimulating and shaping the powers of the child; that our geography or literature is of value only when it results in fitting the learner more successfully into his place and increasing his efficiency in the business of living.

### QUESTIONS AND PROBLEMS

1. Make a list of the points in which an educated man differs from an uneducated, arranging these points in the order of their importance. Are you ready at this stage of your study to formulate a definition of education (not merely quoted)?

2. Suppose each of us engages in a little heart searching to determine whether we are chiefly teaching *material* or *boys and girls*. That is, what is our standard of success, the lodging of so much matter, or the *effects* of it?

3. Why is it that elementary teachers are not required to have as much preparation as high-school teachers, and receive less pay? Is it because it has been assumed that the *stuff taught* is the measure of difficulty in teaching? Measured from the learner's side, which is the harder teaching position, in the grades or the high school?

4. Think over the list of teachers you know, or visit a number of rooms and try to determine the degree to which each teacher has come to realize that he should treat the subject-matter he teaches as a *means* and not an *end*.

5. Examine some of the "methods" or devices used in teaching number, language, etc., and try to determine whether they were devised chiefly with the *material* or the *learner* in mind.

## CHAPTER III

### WHAT METHOD IS

**W**HAT is the nature of method? How is method to be determined, and how applied to the work of instruction? What are the criteria by which to judge whether a given method is valid or vicious? How may we know whether the method we are employing in teaching this subject or that is adapted to the work required of it? Is there such a thing as a set of guiding principles which we might call *general method*, or are there only *special methods*, whose number and variety must be as great as the different fields of instruction? Can I learn to develop good method for all the subjects I teach—and how? Some of those questions can be answered tentatively at once, and others must await the outcome of our entire discussion.

#### *The Nature of Method*

The word method as employed in education has ordinarily been given a much narrower meaning than will be adopted in our present study. It has often been limited to a discussion of the *presentation* of subject-matter in the recitation, together with whatever prediminary organization of the matter was required for this purpose. Not infrequently the term method has been applied to mere devices—temporary expedients employed to catch the interest, appeal to the spirit of competition, or otherwise narrowly affect some one situation or power.

**The four factors in method.**—Manifestly such a con-

ception of method is too narrow to admit of a formulation of its foundation principles. In the meaning that we shall employ, method deals not with presentation in the recitation alone, but includes the whole problem involved in facilitating learning. It begins with the fundamental question of the *purpose* of our instruction—the *why*. It investigates the most favorable *subject-matter* for the accomplishment of this purpose—the *what*. It then inquires how best to *organize* such material for instruction; and finally considers how to present the chosen material in order to attain the desired end—the *how*.

Method in this broad sense, therefore, springs from four roots, or in another figure, it rests on a fourfold foundation: (1) the *aim*, or *function*, of the subject-matter, defined in terms of the results sought in the development of the child; (2) the *material* to be selected with reference to this aim and placed before the learner for his mastery; (3) the *preparing*, or *organizing*, of the subject-matter to adapt it to the mind of the child; and (4) the *technique of instruction*, or *presentation*. Let us see how each of these is related to the others, and how all combine to determine method.

### *The Part Played by a Definite Aim*

Our whole scheme of education probably suffers more from lack of a definite aim than from any other one defect. This is certainly true of our teaching. You may teach your grammar or I my geometry without knowing what we particularly expect to accomplish through them in the training of the child; hence we shall not know whether we have finally accomplished the right thing or not. We may go through the process of instruction without having consciously aimed at any definite goal, so we shall have no way

of telling whether we have reached any goal worth attaining. In such teaching the saving quality of purpose is absent. It can succeed only by accident. It *lacks method*.

**Aim sets the goal.**—The first question, then, in the formulation of method in any field is that of the *aim*, or *function*, of the subject. If, as we saw in the first chapter, each subject of the curriculum is an instrument with which to work on certain powers and capacities of the learner, the necessity of determining *what* powers and capacities are to be acted on and *how* they are to be affected is obvious. The ability to set up an aim and select means for its attainment is fundamental to successful achievement in any line of action. He who can not conceive an aim to be reached through his endeavor works blindly and by chance. He has no way of knowing whether he is employing the right means or instruments. He can not judge the success of his endeavors or estimate the value of the processes employed. He is like a man groping in the dark for a prize, the very nature and location of which he does not know.

**Aim determines the material to be used.**—Until we have a clear conception of the aim of education, and what it should do for its possessor, we shall be unable to determine whether we are employing the best subject-matter for the accomplishing of the end sought; nor can we safely decide whether the type of instruction we adopt is successful or not. More specifically, unless we know the function or aim of the geography, Latin, or literature we teach, that is, unless we know what abilities and tendencies these subjects are intended to stimulate and direct in the child, we can not determine *what* geography, *what* science, *what* Latin, or *what* literature to teach for this purpose; nor can we decide on their best organization for instruction and their most effective mode of presentation.

To express this truth by an analogy. Suppose I am an

expert architect, and you ask me to specify the material that should be used in a structure the building of which you have in mind. It is clear that I shall be unable to advise you until I know the purpose of your structure. If the building is to be used for purposes of exhibition and show without any idea of permanence, strength or long-continued usefulness, I will specify one kind of material. If, on the other hand, this building is to stand for a long period of time, if it is to endure as a stately example of the permanence and value of religion or patriotism, if it is to withstand the stress of daily use and much service, then I must advise an entirely different kind of material. So also with the method, or process, of the building of your structure. One class of building activity or workmanship would serve for a temporary structure intended only for display, while an altogether different method would be required for a structure designed to serve for centuries of steady use.

**Aim and the structure of education.**—Applying the analogy somewhat more closely to education, suppose you ask me what subject-matter one should study. If I conceive that the aim of education is merely to polish, if it is to supply a temporary veneer, if it is to train a narrow set of mental abilities to a high degree of skill, then the material used may be of the kind that will yield polish, veneer, or the sharpening of wits. If, on the other hand, I believe that education is to prepare for the day's life, with all the stresses and strains of its work or its play, if it is to help in meeting the problems and responsibilities hourly thrust upon one in the thick of social process about us, if it is to fit us into our niche in life as a fruitful participant in the activities of our day, then I shall advise that the material built into our educational structure shall be adapted to this end and not to the other. *It is all a matter of aim, or purpose.*

*The Material of Education Must Be Suited to the Aim*

Not only must aim determine the material, but the *material must be specifically adapted to the aim* desired. When the great public schools of England set up as their aim the training of an English gentleman, they do not offer a curriculum of industrial, commercial or technological subjects; for their outcome would contradict the English ideal of a gentleman. When Germany fixes her aim at producing the most highly skilled technical workers, the subject-matter taught in the schools devoted to this end is calculated to train to technological pursuits. Our schools can not accomplish the aim of preparing for industrial pursuits if the curriculum contains material adapted chiefly to commercial or professional careers. Education can not prepare for the problems and stress of the day's living if the material studied bears no relation to such problems. We must put into the hopper what we desire to carry away from the mill.

More definitely, the purpose to be achieved by the teaching of arithmetic, history or botany can not be reached except by selecting for these branches the material suited to the aim conceived. It is futile to say that the study of arithmetic must result in facility and accuracy in the common computations needed in the home, on the farm or in the shop, and then give the child highly complex, theoretical and unreal problems to solve, while omitting those that relate to home, farm and shop. If the aim of history is a knowledge of one's country, loyalty to its welfare and a sense of kinship with the great men and women of other times, we must give the youth who studies history more than a list of dry dates, unimportant events, and tedious military campaigns for his reading. And so with every other subject. The

material and the aim must go hand in hand. But more of this later.

### *Instruction Must Fit Aim and Material*

The same line of reasoning holds for the remaining factors in method, the *organization* and *presentation* of material in the recitation. Once the aim and the material are decided on, the remaining question of method turns on how to arrange and present the chosen material to accomplish the desired aim. The most fruitful subject-matter may be rendered dead and useless and the most important aim made futile through poor technique in instruction.

**Technique of instruction must be adapted to aim.**—Aim therefore determines the method of the recitation. If I am to determine the best manner of organizing and presenting the material for a given recitation, I must know the end sought through this recitation. If it is to ground the class permanently in certain fundamentals, a wholly different method will be required from that calculated to display the brightness and quickness of the class to chance visitors. If the aim is to catch the fleeting interest, tickle the fancy, or feed the egotism of the pupils, one type of recitation will serve; but if the purpose is to develop independence and originality, cultivate careful thinking and exact expression, or otherwise encourage the more serious side of development, then a different recitation method is required. Again the question is one of selecting the right means to attain our aim. We shall need to look a little more closely into *aim* as the controlling factor in education.

### *Determining the Educational Aim*

We have seen that the aim of education must determine both its subject-matter and the method of instruction. But

*what determines the aim of education?* How are we to know when we have fixed on the right aim for education in general or for any subject or field in particular? When is a person to be called educated, and by what means does he arrive at this state? Just what do we seek to do to or for him through his education? There have been plenty of dogmatic answers given to our questions, but most of them are not convincing.

Of this much, however, we may be sure at the start: *The aim of education as a whole must set the aim for each subject or branch.* Whatever the whole of one's education seeks to accomplish, the language, arithmetic or science he studies must do its part to attain. There is no place for the useless or obsolete. The whole must include the parts, and the parts together must make up the whole.

**Conflicting aims in education.**—There has been much controversy and little agreement as to the central aim of education. It does not fall within the scope of this work to enter into any extended discussion of the controversy, yet a brief statement of the points at issue is necessary. Two quite distinct ideals have been advanced as the end of education, the terms most commonly used to express each being *culture* and *utility*, respectively. One reason for the disagreement of the adherents of these two ideals is that neither culture nor utility has been, or perhaps can be, sharply defined so that one may know precisely what is meant by the terms. Further confusion is created by the fact that the meaning of the two terms has come to overlap. All culture as conceived in modern times contains many elements of utility; and utility, especially under our democratic ideals of life, is by no means devoid of culture.

The older culture ideal as the aim of education arose before the days of democracy. It has its roots in an aristocratic civilization. The educated man was not to serve; he

was to be served by those lower than himself in station. He was not to work, but be worked for. Training that would prepare for service was only for servants. Education that would make one a better worker was only for the unfortunate man who was obliged to labor. Hence the "cultured" aristocratic would have nothing of the practical or utilitarian in his education, as he feared it would class him with the despised masses. Culture and practical utility were as far apart as the poles. This traditional view of culture still obtains in no small degree, but it is giving way before the democratic ideals that dignify labor and almost deify service.

**The newer definition of culture.**—Culture must remain a chief aim in our education, but its definition is being radically changed. The culture of the future will not be *mere* polish, nor discipline of the powers and abilities without any reference to the part they are to play in actual affairs.

The newer culture will include (1) a *spirit of artistry* in work and achievement. It will not call that man cultured who is satisfied with low-grade or mediocre performance, no matter what be the line of his occupation.

The new cultural ideal will involve (2) a *spirit of social good will and service*. Under its inspiration education will not be looked on as a means of securing selfish advantage at the expense of others. On the contrary, it will consider education as the means of opening the way to greater service for one's fellows while attaining the highest satisfaction and success for himself.

The newer culture will (3) develop a *capacity for fine appreciations* in a wide range of contacts and experiences. One's training will lead him to value the beauty and goodness of the world about him, and to take pleasure and satisfaction in their appeal to his life.

Culture under its newer definition will (4) result in put-

ting into the possession of its possessor a large fund of *inner resources* that will yield satisfaction and enjoyment. The trained mind; the well-stocked memory; the warm imagery of people, places and events; the knowledge of one's world; and the sense of worthy destiny accomplished are typical of these personal resources.

**Culture and utility.**—From the foregoing point of view there is no real conflict between culture and utility. It is true that the term "utility" has meant chiefly the narrower practical abilities such as are directly used in the every-day affairs of life, more especially such as are employed in the economic or bread-and-butter activities. But the concept of utility is also growing broader and richer, like that of culture.

The advocates of utility as the outcome of education attach great importance to the subject-matter employed. Their insistence is for *content* studies as against *formal* studies. They are not indifferent to culture, but believe that culture will result from studies that are directly related to every-day interests and affairs as well as from those that have no direct bearing on real life and experience.

**The efficiency aim.**—Happily for our present discussion we do not need to take sides in this ancient controversy between culture and utility. The more recently developed *social aim* of education includes the best from both of the older ideals and smooths out the sharp points of conflict between them.

Under the social ideal, the aim of education is conceived as *fitting one into the social activities of his day*—not only stimulating certain powers and abilities, but setting them at work in the carrying out of the individual's responsibility to himself and society. Whatever accomplishes this is education. Whatever fails to do it can not be classified as education. Whatever fits one effectively into the process, the day's

work and its play, will of necessity possess a large measure of culture—of those qualities that satisfy the self and please and serve others. And whatever does this will also possess the highest degree of utility. Thus the demands of the controverted aims of education are both met in the newer concept. In our further discussion we shall therefore accept the social aim of education as defining the aim of each subject and branch of the curriculum. *Education must prepare for social efficiency, and every subject taught must contribute its share to this end.*

### *Terms in Which the Educational Aim May be Expressed*

When we say that the aim of education is to prepare the individual for the social activities of his time we have, after all, a very general expression. What is meant by preparing the individual for the social activities, how is he to be fitted into them, and finally, how is education to accomplish this adjustment?

In answering our question let us first ask another: *What does the person who to-day seeks to take his part in the life going on about him require in the way of preparation?* What is demanded of him as he assumes the duties of home, state, church, community and vocation? What are the attributes, or qualities, he needs as he goes out to meet the day's duties as a participant in the world's work and its play?

**Three fundamental requirements of education.**—Every individual requires (1) certain lines of *knowledge*; (2) certain *attitudes, ideals, standards and interests*; and (3) certain *skills*, or the application of knowledge and attitudes to the use of his powers. It is therefore the business of education to see that the individual is not lacking in essential knowledge, the fundamental attitudes toward life

and society, or in the ability to put his powers successfully at work. Every separate subject or branch of the curriculum must bear its responsibility in yielding its particular contribution to the knowledge, attitudes and skills required.

**The knowledge requirement.**—One must *know* his world. Only through knowledge does power come. It is not enough that one shall have high ambitions, noble feeling, and the will to achieve. He must have a *mastery of the facts* to be met with and their relations to one another and to himself. Lacking this knowledge he is a ship without a rudder driven helpless by every gale and current encountered. Ignorance of one's world always means weakness and inefficiency. It is sure to spell defeat.

To be still more specific in our analysis: *What* knowledge is most required by one who is to live broadly himself and contribute his share to the social welfare? The field of knowledge is well-nigh endless, and no one person can hope to master more than a small fraction of the whole. We must therefore carefully select within the field of knowledge.

**Knowledge of most worth.**—It will of course be impossible to answer in detail just what knowledge is of most worth in education. Spencer attempted this years ago, and many others have tried it before and since. Yet an important underlying principle is becoming increasingly clear: *The knowledge supplied by education must be fruitful.* By being fruitful, we mean that it must have the most vital and concrete bearing possible at important points of actual experience in the social activities. There can be no "knowledge for its own sake." Knowledge has grown up bit by bit out of the needs and crises of human experience, and its great function is to lead its possessor to-day back to a more fruitful and valuable experience. This aim of education does not, therefore, consist in the mere appropriation of

knowledge, *any* knowledge, but in the mastery of the knowledge that will function in the business of living, that will shape conduct, that will direct effort, and that will insure achievement.

Knowledge that has no relation to duties, problems and responsibilities, knowledge calculated to result only in the training of powers that have no point of contact with actual experience, or knowledge meant to contribute but a surface polish or veneer without substantial foundation of true worth may well give way in the process of education to more vital and fruitful knowledge. The rigid application of this principle to our school curriculum would beyond question result in a radical modification of much of its material. There are many signs that the application and consequent modification are getting under way.

**The training of attitudes.**—*Attitudes, ideals, standards and interests* are no less important a part of education than knowledge. For one's attitudes and ideals constitute a background to his life which modifies and colors all other values. They act as a matrix out of which the impulses to activity and conduct spring. They serve as stimuli and guides, directing effort and leading to achievement. In short, attitudes are the great motive sources of conduct.

The significance of attitudes and interests is readily understood by the teacher who has had to do with pupils whose attitude toward school or toward particular studies was bad. Indifference, lack of interest, low ideals, or any kind of hostility is an effective bar to effort and accomplishment in every phase of school work.

**The practical value of attitudes.**—In similar manner may we press the importance of attitudes toward the larger questions of life and vocation. Chesterton says that the most important question about any man is the "kind of

philosophy he keeps"—the manner in which he looks out on the opportunities and responsibilities that confront him. Every person develops some sort of philosophy of life, some standards of value by which he judges what is most worth while as an end toward which to apply his energies and direct his efforts. That most people are unconscious of having possessed themselves of such a life philosophy does not detract in the least from its importance and influence. Their points of view, standards of value, and ideals are nevertheless at work in their choice of vocation, determining the quality of their citizenship, deciding the value of their relations as members of homes, churches or communities, and otherwise conditioning the outcome of their life and experience.

The importance of the attitude phase of education has not yet been fully recognized. *Knowledge* has been the chief, if not the sole, criterion of education in the minds of many. True, we have come to realize more or less clearly that to equip an individual with knowledge and at the same time leave him with an attitude of rebellion against the moral order and of hostility toward society falls far short of accomplishing the end of education, and but leaves us with a potential criminal on our hands. We have not, however, applied this principle broadly in our education. In an industrial nation and an industrial age we find that our schools have served to lead away from, rather than toward, industrial occupations. The result has been a surplus of workers in professional and mercantile vocations, and a shortage of skilled artisans. We have not yet come to realize that the *attitude* developed toward great lines of culture from their study—history, science, literature—is much more important than the modicum of knowledge gained. The attitudes and ideals created concerning the values to be

striven for in vocation and avocation, and in the relations of home and state and church are of supreme importance in education.

**Skills as an aim in education.**—Finally, with reference to *skills*, or control, as an end in education. Fruitful knowledge and good attitudes should eventuate in deeds and achievement. Otherwise they have no significance in a practical world of affairs. One should not only develop his powers but secure control over them. He must not only be able to think and feel, but also to do. To be a successful participant in the activities of his times one must possess various skills. He must be able to direct trained capacities to fruitful effort.

This means that one must not only possess fruitful knowledge, but that this knowledge shall be so organized and applied that it brings results. One not only needs to develop strong muscles and steady nerves, but to have these trained to sure and ready response in worthy directions. He not only must know the right and the wrong in the moral order, but have such control over the self as to be able to choose the right and turn from the wrong under the stress of temptation. He must not only possess knowledge of the social order and a right attitude toward social problems, but have the skill to do his part in bringing about social progress and needed reform. In short, education must include as its aim *the development of skills*, or the ability to do, equally with the attainment of knowledge and the creation of right attitudes and ideals.

The following three chapters will be given to a further elaboration of the *knowledge* aim, the *attitudes* aim and the *skills* aim of education.

In consideration of the point of view presented in this chapter we shall, then, look on method as beginning with

the question of the aim or purpose to be attained through what we teach in the education of the child. We must then inquire what particular material or subject-matter will best attain this aim. We must finally ask what technique of instruction will best use the material selected for the aim set forth.

The newly conceived aim of education is social efficiency, which only means living the strongest, happiest and most useful life here and now. The attainment of this aim includes (1) the acquisition of fruitful as contrasted with useless knowledge; (2) the development of right attitudes, interests, ideals, habits, or the attainment of a true sense of life values; and (3) the training of a reasonably wide range of skills, the creation of a capacity for control and achievement. All the subjects we teach must present such material and be guided by such methods of instruction that they do their part toward accomplishing these aims.

### QUESTIONS AND PROBLEMS

1. This chapter should prompt each of us to a little self-examination on the question of the *definiteness* of our teaching. Suppose you try to write down a specific statement of the aims to be accomplished through several of the branches you are teaching.

2. Next, examine with care the *material* you present in the several subjects with the purpose of discovering whether it is adapted to the aim you seek through each subject. If not, where is the difficulty, and what the remedy?

3. Think over your methods of instruction, and decide whether they are as well adapted as you can make them to accomplishing the aim you seek through your teaching of the different subjects. If not, keep your mind alert throughout the text for suggestions to help in the improving of your methods.

4. Contrast in your thought education as a mere *accomplishment* and education as the *means to efficiency*. Which is the truer ideal? What difference will it make in your teaching whether you hold one view or the other?

5. After studying the paragraphs on the newer definition of culture, try formulating your own definition of culture. Remember that a true definition is often but a plan of action, or a goal to be achieved. Will you then shape your teaching to develop this type of culture in your pupils?

6. Try harmonizing the two conflicting ideals of education, *culture* and *utility*, and show that, under the newer definition of each term, the two unite in what we may call *social efficiency*.

## CHAPTER IV

### THE KNOWLEDGE SIDE OF EDUCATION

**W**HAT does the educated person of to-day need to know? We have taken the ground that the aim of education is *social efficiency*, and not the training of any mythical set of "faculties" nor the appropriating of any particular body of knowledge approved only by tradition or convention.

**The part played by knowledge.**—It necessarily follows, then, that the knowledge supplied through education must directly and in no doubtful or uncertain way lead to these aims. One must know his world, with the emphasis on *his*. He must know the fundamental facts that underlie participation in his world's work. He must know the significant facts governing his relations as a member of a family, a community, a nation. He must know the vital facts concerning the world of physical nature and of self. This is all to say that the knowledge offered the child for his mastery is to be selected for its concrete application to the problems and duties of the daily life which he is to live—which he is living here and now.

True, we do not know just what the daily life of each of our pupils is to be; much less do we know in detail the special problems that each will meet. Can we then decide what phases of knowledge will be needed by the individual?

**Education to supply the fundamental knowledge.**—The answer to our question must be that we can not know in advance just what specific phases of knowledge each per-

son will most need in his social activities. Life is too great a complex, and the lines of knowledge too diverse for this to be possible; but neither is it necessary for the fundamentals of education that the whole life experience shall be known. For what the individual needs from his school education is not to master all the details of the knowledge later to be demanded of him. It is rather to lay deep and strong the broader foundations which every person will require, no matter what his vocation or status is to be. With this done, and with right attitudes, interests and habits developed, and with skill attained in the use of one's powers, the details of the knowledge demanded in daily activities will be secured as the need arises. But this foundation knowledge must be *vital*, and must belong to the world of present experience, else it tends to divorce education from life.

We can at least avoid Spencer's criticism that we train our children's minds as we clothe their bodies—in the prevailing fashion; we can refuse to teach fruitless matter though it be called good form to learn it. We can cease to furnish grounds for Flexner's claim that "the subjects commonly taught, the time at which they are taught, the manner in which they are taught, and the amounts taught are determined by tradition."<sup>1</sup> We can omit from the child's education such phases of knowledge as may once have possessed educational value but which are now obsolete and useless.

The fundamentals of knowledge required by those who would live a reasonably full life and do their part in the present social process may be roughly classified in certain broad groups: knowledge (1) of tools, or symbols; (2) of self; (3) of physical nature; (4) of human nature; (5)

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<sup>1</sup> Flexner, *A Modern School*, p. 5.

of history and institutions; (6) of industry, science and invention; (7) of expression; (8) of avocations.

### *Knowledge of Tools, or Symbols*

Essential to all other learning is a knowledge of certain symbols, or essential tools, and skill in their use. The "three R's," which once were looked on as constituting a fair education, are still the basis of all education. The ability to read, write, spell and number, while no longer an adequate measure of education, is a necessary preliminary to all that may follow.

**Fundamentals must not be neglected.**—No greater mistake can be made in any system of education, either as applied to an individual or a nation, than to slight these fundamentals. That we are, on the whole, failing to ground our children in the basic forms of knowledge, there can be little doubt. Every experienced teacher knows what it is to try to teach children the more advanced sections of a subject when they lack knowledge of the more elementary phases. Pupils often fail of the best results in history, geography, civics or science because they can not intelligently read the text. They are unable to solve problems in practical measurements in arithmetic because they do not know fractions. They fail in percentage problems because they do not know the decimal system. They can solve rather difficult problems from a text, especially if they know the "cases" under which they come, but can not work relatively simple and practical problems met in actual experience. They are at a loss in the more advanced phases of language study because they have not mastered the elements, and so on.

It pays in any line of building to make the foundation

strong before we attempt to rear the superstructure upon it. Failure to do this is probably our weakest point in elementary education. Much saving of waste in education—waste in time, interest, effort, money and efficiency—could be accomplished by the application of this simple principle. We can not emphasize too strongly that *a thorough knowledge and ready skill in the tools of knowledge are the first requisite in education.*

**Fundamentals to be made second nature.**—This requirement sets the aim therefore of the elementary grades. As the knowledge needed in these stages of development is being secured, a knowledge of the fundamentals must not be omitted. Drill and practise must go on until the reading, the spelling of words commonly used, writing, punctuating and the elementary number processes become *automatic*. Knowledge of these things must be made second nature, so that thought, judgment or memory are not consciously required, but left free to deal with meanings and values of higher order. This does not in any degree mean that the drill on these fundamentals shall be devoid of content. It does not mean that the child shall not be taught to think. It does not mean that his interests shall be neglected. It only means that while taking care of these things, *a ready and certain mastery of the fundamental tools will be assured.*

### *Knowledge of the Self*

Every person should secure through his education certain knowledge of self. Nor is this self to be conceived as some mythical, intangible entity of doubtful reality and more or less incomprehensible qualities. By the self is meant first the *physical* organism and then the *mental* and *social* powers that use the brain as their machine.

**Knowledge of the physical self.**—One should understand the marvelous, delicately adjusted and complex mechanism that we call the body. The laws of health and development should be of primary consideration. The factors involved in growth, strength, physical efficiency and longevity should be thoroughly comprehended. An understanding of the rules governing food, exercise, sleep, fatigue and rest should be fully within the grasp of each person. The effects of physical habits should be understood, and the influence of narcotics and stimulants upon physical efficiency, health and success should be a fundamental part of the education. When the proper time has arrived, knowledge of the mystery and laws of sex should be put into the possession of every youth, and particularly should this line of information extend to the influence of sex habits and their power for good or evil in the life.

**Knowledge of the mental self.**—Upon the mental side the self is no less real and understandable, even if less tangible, than the physical. While the technical facts and laws of psychology are beyond the grasp and comprehension of a majority of those who attend the elementary school, yet certain of the simpler facts which relate to the mental life should constitute a part of the education of all children. They may easily come to know some of the effects of mental habits. They can understand the origin and influence of moods. They can grasp the facts involved in the development of disposition. They may come to know the folly and uselessness of worry and its crippling effect upon happiness and efficiency. They may be taught methods of work which will economize effort, nerve strain and fatigue. They may know the principles underlying the capacity for concentration and realize the futility of mental work unaccompanied by a high degree of mental pressure.

**Knowledge of the social self.**—So also with knowl-

edge of social forms and usages. Society has developed certain usages which every person needs to know and obey. Good breeding is a commercial as well as a social asset. Ability to meet people easily and with grace and dignity is one of the surest marks of true education. Every child has a right to such knowledge and training, which will in part come from the home, but which in many cases, because of the limitations of the home, must be given chiefly in the school.

### *Knowledge of Physical Nature*

Knowledge of physical nature constitutes an essential part of modern education. In the elementary grades this knowledge will, of course, take the form of undifferentiated science, or information about the immediate physical environment, while in the high school the separate sciences will form distinct branches of study.

**Education to include knowledge of physical environment.**—A knowledge of the earth we live on, its rivers, hills, mountains, valleys and lakes, its different soils and climates and their products should be included in the mental acquisition of all intelligent persons. Information should be acquired as to common plant life, first of all that which lies nearest at hand and is daily to be met, used and appreciated. At least a general knowledge should be had of the chief plants supplying our food, clothing and other articles of comfort, necessity or luxury connected with our lives. No education of present times is well balanced which does not include some practical knowledge of the animal life of the earth. Here again that which is nearest at hand, either from the point of view of location or as to interest and importance should receive first attention. Then forms of animal life that are farther away but which have some relation

to the life or activities of our civilization should come within the ken of the learner.

The educated person will also extend his knowledge to include an understanding of the forces and forms of physical energy which have to do with our world. Their laws should be mastered and the methods by which they are applied to carrying on the world's work, its industries and activities should be understood. Finally because one is confronted by the fact of a vast universe extending beyond the realms of our own earth one should have at least some comprehension of the worlds beyond our own.

### *Knowledge of Human Nature*

Because every individual lives in a social medium and is daily and hourly in contact with human nature, a knowledge of the most fundamental qualities that enter into the make-up of a human being should be well understood.

**Knowledge of people.**—We must constantly adjust ourselves to others, live with them, obey or control them, teach them, buy from them, sell to them, or in a thousand ways fit our lives to theirs. On one's ability to judge other people, adapt himself to them and work with them much of his success will depend. The great qualities which go to make up a fine personality, and on the other hand the negative qualities which lead to weakness and rob one of power and influence should be recognized.

Not only in this rather general and abstract fashion should one come to know human nature, but also from the study of ideal characters as found in literature and biography. The literary writer, unhampered by the limitations or weaknesses of any particular individual, is at liberty to endow an imaginary character with all of the graces that enter into human nature. On the other hand, he may also

apply to one individual all of the vices to be found, not in any one person, but in many. In such way, may we catch a vision for our own lives, learn to shun our baser tendencies.

One should also come to know human nature through a study of the real historical personages presented to us in the descriptive pages of history and biography. In this way we come to know human nature in action, busied with the real deeds and achievements of civilization. The qualities of personality are not, as in literature, found in an ideal or imaginary setting, but actually at work as vital forces in the real world of action.

**Developing the sense of racial kinship.**—The value and stimulus of such knowledge as this for the young can hardly be overestimated. From the study of human nature and the inter-relations of individuals and generations there should come to the youth a sense of human kinship. He should come to feel not only that he is a part of the present generation with its opportunities and duties, but also a part of the great chain of life that began at the beginning and will go on until the end. Nothing could be more broadening, enlightening and stimulating than this sense of racial kinship and achievement.

### *Knowledge of Social Institutions*

Each of us lives and moves and has his being in a social medium. We are members of a group of social institutions, each with its own aims, ideals and methods of procedure. Indeed the life of the race can largely be defined in terms of social institutions which peoples and nations have evolved. The place of a people or nation in history can be judged from its institutions. It is a part of education,

therefore, to know the origin of each of the great social institutions and something of its history and development.

**Knowledge of the home.**—Every youth should have some definite information as to the nature and meaning of the family and home, and comprehend the part played by the family unit both in history and in the economic and social organizations of the present. The value and sacredness of the home relations should be fully realized. This knowledge should result in greater love for the home, greater loyalty to its relations, and pride in its good name.

**Knowledge of the state.**—Likewise should one come to know the meaning of the state. He should grasp the significance of government and its function in securing equal justice and opportunity for all under its sway. The meaning of government should extend not only to the negative functions of restraint and control, but to the positive function of carrying out great projects such as education and many lines of public service for the good of society. The meaning of citizenship and its requirements should grow out of this fundamental information and the sentiment of patriotism become well developed. In such study should the sense of personal citizenship arise, and the realization of civic responsibility have its grounding.

**Knowledge of religion.**—The church as one of the leading social institutions should likewise come in for consideration in present-day education. This does not mean that the individual should be educated in narrow sectarian fashion, but rather should grow to realize the part that religion and the church have played in social and individual development. In similar fashion should the school be brought to the attention of the youth who constitute its present-day membership. One who has come to see the price paid in sacrifice, toil and suffering for the earlier

schools, and the immense amount of funds to-day devoted to education can hardly look on education and schools as an imposition instead of an opportunity, as not a few pupils of to-day do.

**Knowledge of social conventions.**—Finally, as previously mentioned, every youth should come to a knowledge of the social conventions, or rules, which have been developed through the generations and to-day express the aggregate wisdom of society with reference to social behavior and conduct. It is not uncommon to find those who are impatient of the restraint of social conventions and look on them as narrow, old-fashioned and unnecessary in this later day. All such will be rendered more patient and more wise by being brought to a realization that social conventions express the collective judgment of society, and are not the invention or petty whim of any one individual or generation.

Once the individual has grasped this fact he will hardly feel like setting up his own judgment against the wisdom of society accumulated through the years. He will understand that social standing requires obedience to the customs and rules dictated by good breeding, whether in the home, in social groups, or in the association of the sexes with each other.

### *Knowledge of History*

Education should include knowledge of history, local, national and general. It is a part of common intelligence to know something of the historical development of one's locality, state and nation. Not only should we know the political and military history of our people, but also the social and industrial achievements of our nation. We should be able to define our chief national ideals and know how our nation differs from other nations. We should realize

something of the debt we owe to society because of the toil, sacrifice and suffering of preceding generations who have left us the heritage of civilization and opportunity which we enjoy. We should come to see the working of cause and effect in the production of wars and other crises, know the great problems which now confront our country, and be able to apply every lesson of the past to their solution.

**Scope of historical knowledge.**—Our historical knowledge should also extend to other nations and times, else we shall have little historical perspective and therefore be unable to judge social values aright. The origin, growth and particular type of civilization characterizing each of the great nations should be comprehended. We should know their national, social and political ideals, together with how these have come about. Such great concepts as freedom, democracy, universal education and religious liberty should be studied and the individual come to know the course of the development of each of these great ideals in the life of peoples, and the part they play in our present national ideal.

### *Knowledge of Industry, Science and Invention*

The industrial and commercial activities form so large a part of life and are so fundamental to all human welfare and progress that a knowledge of their processes should form an important part of education. The industries which supply our clothing, give us our food, and build and furnish our homes especially appeal to the interest of children. Here also is an excellent place to lay the foundation for a later understanding of the structure and relationships of society in the broader sense.

**Knowledge of vocations.**—Man was made to work, and finds his greatest satisfaction and highest development only in some vocation. A knowledge, therefore, of the

fundamental requirements of vocational activities rightly constitutes part of every person's education. It is true that technical vocational knowledge and skill can be supplied only in special schools, but a general education may include the fundamentals.

Further, each individual should have such a knowledge of the requirements placed on one who enters a given vocation that he will know whether this vocation is adapted to his tastes and aptitudes. He should also know something of the rewards to be expected, the problems, difficulties and disappointments to be met in different vocations. His knowledge should thereby guide in the selection of his vocation.

**Knowing the world of invention and discovery.**—It goes without saying that in this day of inventions and industrial development education will include a broad, even if general, knowledge of the scientific inventions and fundamental discoveries that are so constantly being made and which so vitally affect human welfare and progress. The material side of our civilization is not only wonderful, but so closely allied to all spiritual and ideal values, and bears such relation to the comfort and luxury of present-day life that it should form a very real and practical part of any complete education.

### *Knowledge of Forms of Expression*

No education can be counted complete or even well advanced which does not possess some accurate and usable knowledge of the various forms of expression. The world little knows and nothing cares concerning the great thoughts one may think, the great emotions that may stir his soul, or the high ideals that may throb in his heart if he is unable

to express these in some concrete fashion understood by others. Such great forms of expression, therefore, as literature, art, music, the speech arts and dramatic representation should enter into present-day education.

**Chief forms of expression to be learned.**—One should become familiar with the literary devices of plot, character, rhythm, rhyme, etc., and thereby have a foundation of knowledge from which to judge literary forms and structure. In pictorial and plastic art one should come to know the methods employed for bringing out the meaning of the picture or statue. He should understand something of composition, light and detail as used in painting and thereby have a foundation from which to judge and appreciate artistic productions. Similarly in music, the use of melody, harmony and the like, employed to express various themes should be comprehended. No less should such knowledge extend to the speech arts, and should include the principles of successful speaking, whether in conversation or in more formal public address. In dramatic representation the value of the different forms of expression should be similarly understood.

### *Knowledge of Avocations*

Finally, a knowledge of avocations is as necessary as a knowledge of vocations. It is as difficult an art to employ one's leisure well as to use his work time fruitfully. Every person, therefore, should know something of the function of recreation and the various avocations. He should know that life can not be all work any more than it can be all play. He should learn how to play, and should be able from this knowledge to participate in the common games and amusements of his social group. This is necessary, not only

as it affects one's social standing and contributes his part to the social situation, but also is demanded for our own mental, physical and moral good.

**Need for avocational knowledge.**—As our national wealth grows and the conditions of life become increasingly easier, the problem of the use of leisure time becomes more and more important. The eight-hour working day leaves a number of hours out of the twenty-four to be disposed of. To use them fruitfully, so as to build up the physical and mental life by worthy recreations, rather than to weaken it by improper forms of amusement, is a problem not yet fully mastered. Public parks, municipal recreation centers and school playgrounds are praiseworthy attempts to aid in the solution of the problem. But the school must also do its part in training to interest and participation in the better forms of play, amusements and recreation. For avocations are an *art*, and *need to be learned*, like vocations. It is encouraging to note that the movement is growing to give avocations a definite place in the curriculum as has already been done in the leading countries of Europe.

The classification which has been followed in outlining the fields of knowledge required in present-day education is incomplete and no doubt logically imperfect. It will serve, however, to emphasize the scope of knowledge required for living in the twentieth-century civilization, and especially in a great democracy. Such knowledge as that suggested is the birth-right of all. It does not belong to the few, nor to any particular occupation. It is the heritage of humanity, and the minimum equipment that should be given our children.

It is the business of education to deliver these forms of knowledge to the child. It is therefore the business of each separate subject in the curriculum to contribute its share. No one branch can do all, nor may any fail to do a part.

Here again then we meet the demand already stated that the teacher shall determine just *what* phases of this knowledge his particular subject or subjects shall contribute. Once this is discovered it will constitute the *knowledge aim* of his material, and advance him one important step in the formulation of good method in his field.

Summarizing the point of view of the chapter we shall, then, look on *knowledge* as one of the fundamental and essential aims of education. But this knowledge must be such that it relates to the real and genuine world of the learner. Its value shall not be judged by how long it has been a part of the school curriculum, nor by its reputation in the world of learning, but by its fitness to aid the child in meeting actual problems in his life now and in the future. Knowledge to be fruitful must help us to understand and master our world. This knowledge can be classified for the purposes of our discussion in a few great groups, each of which is necessary to an education in our times. The teacher, as the first step in developing a method for his subject, must decide what phases of the required knowledge is to be contributed by this or that particular branch.

### QUESTIONS AND PROBLEMS

1. Think over the knowledge that you have mastered in the course of your education, and estimate the proportion of it which seems to have little or no relation to your present needs for knowledge.

2. In the light of your own experience estimate the value of the knowledge in various subjects which you are teaching your pupils. Do you see any necessity for trying to modify or eliminate some of it so that what the child is asked to master will be more fruitful?

3. Judging from your own experience or observation, do the children have a sufficiently thorough knowledge of the fundamentals of number, reading and so on? If not, where has been the trouble and what is the remedy?

4. In how far do you judge that the knowledge of physiology which you are teaching is bearing fruit in *better physical living* on the part of your pupils? In how far is the knowledge of language you teach resulting in *better speech*? Apply similar tests to the other subjects.

5. First decide whether you agree that all normal children of to-day should have reasonable grounding in the phases of knowledge listed in the chapter. Then carefully estimate the extent to which the curriculum of your school, taught as at present, will put this knowledge into their possession. If there is any point of discrepancy, suggest what remedy is needed.

## CHAPTER V

### TRAINING TO RIGHT ATTITUDES

**K**NOWLEDGE is power?—Only when combined with right attitudes. The term *attitudes* is here used, for want of a better one, to stand for that group of interests, tastes, standards, ideals, enthusiasms, ambitions, desires, aversions, appreciations, etc., which serve as the groundwork of our lives. Knowledge serves as the rudder that guides the ship, but attitudes supply most of the motive force. Through knowledge one comes to understand his world; through his attitudes he builds up his scale of values, determines what he considers worth while, and sets his goals for achievement. While attitudes depend in no small degree on the type of knowledge out of which they arise, they are in no sense secondary to knowledge as an aim in education.

**Attitude no less important than knowledge.**—Education has waited all too long for the recognition of this phase of training. We have readily granted that in order to be educated one must know the facts about his world; but we have not so clearly realized that he must also be able to *evaluate* these facts. We have shaped our instruction to train in the intellectual grasp and comprehension of our material and social environment, but we have offered relatively little help in determining the direction of interests, the cultivating of enthusiasms, or the shaping of ideals. We have exercised the reason and developed the powers of logic in dealing with intellectual problems, but we have given scant attention to the fostering of worthy lines of ambitions and desires. We have fully realized that one must learn to

think, but have in no small degree overlooked the fact that one must also establish a set of personal standards, habits, tastes and inclinations. It is as much an art, and altogether as necessary, to train one's *wants*—physical, mental, moral and social—as to train his powers of thought and supply him with a fund of information.

**The outcome of attitude.**—In short, the surest test of the value of one's education is the help it renders in developing a true *philosophy of life*. It is this life attitude that determines what use one shall make of his knowledge and powers. Wrong attitudes toward society and social justice make the law-breaker, the oppressor and the criminal. Wrong attitudes toward work produce the idler, the spend-thrift and the snob. Wrong attitudes toward moral values account for much of the sin and crime with which the world is cursed. Unworthy interests, low standards and faulty ideals cheapen the personal life. Knowledge alone can not save from these tragedies; knowledge is power of the right sort only when combined with right attitudes toward one's world. Trained powers set at work in wrong directions defeat the very purpose that society has in supporting education, and finally also defeat the individual in the outcome of his life.

What we have called attitudes form so great a complex and the terms in use so overlap that any complete or logical classification is impossible. For our present purpose, it is not necessary. We shall therefore be content with discussing a few of the more important aspects of attitude, and noting their relation to the aim of education.

### *Standards of Value*

Because life is so rich in its opportunities and the lines of action, and achievement so multiform, it is highly essential

that every individual should early develop an accurate sense of values. Because so many directions are open in which one may expend his energies he must come to know what is chiefly worth while as the ends of his ambition and the goal of his efforts. Because there are so many things to which one may give his time, his strength and his enthusiasm, grave waste of these priceless treasures is the rule instead of the exception.

**Waste from wrong attitudes.**—How many of us there are who follow ambitions that, once attained, are found to be barren and empty! How many devote precious time and energy to causes that lead nowhere! How many pursue promising will-o'-the-wisps that entice us but to bogs of disappointment and disillusionment! How many choose baubles that burst as we grasp them, and strive for what we believe to be pearls of great price only to find that they turn to paste when we have paid for them!

Only a trained sense of values will save us from such experiences. This is to say that part of one's education and development is to arrive at what we have called a *philosophy of life*, a point of view from which to look out on the world of values and select the most significant for attainment. It is only this that will save from waste and misuse of time, energy and opportunity, if not indeed from tragic failure and disaster.

While it is not the problem of this treatment to select a complete philosophy of life, yet a few of the leading values may be set forth.

**The worth of happiness.**—The value of *happiness* as one of the fundamental aims of life can not be too strongly held in mind in the teaching of youth. True, there are many other aims than that of securing personal happiness, and yet those who have had the most experience in life and achievement agree that the individual who has attained true

happiness has probably while reaching this accomplishment also done most for the world.

It is a common mistake to confuse the *means* of happiness with the thing itself. There are many who become so busy with making a living, or with the securing of the necessary *conditions* to a broad life, as to forget to *live* in the broadest, richest and happiest sense.

**What happiness consists in.**—By happiness is not meant freedom from responsibility, care or even sorrow. Happiness at its best consists in no small degree in the deep-seated satisfaction found in the unrestricted use of one's powers toward the achievement of ends that seem abundantly worth while. None are more unhappy than those who lack a worthy vocation, or who discover, too late, that they have undertaken work unsuited to their capacities or that, in itself, is not worth while. Education should therefore help one to *find himself*, to judge his powers, and select an occupation worthy their endeavor.

**The conditions of happiness.**—In order to achieve a life of happiness one must refuse to get set in a treadmill routine. He must be able to extract joy from his tasks, and look on each day's life as an adventure in experience, capable of yielding satisfaction and zest. He must be able to enjoy the simple pleasures that come to all—the common associations with friends and family, the life and events of his time, books, nature, and his own thoughts, hopes and desires. Above all, he must not put a mortgage on his happiness by the setting up of bad habits, sowing the seeds of ill health, or any other tendency that will later lead to regret, remorse, or dissatisfaction with living.

**The value of service.**—A second of the great ends to be sought in our scale of values and hence in education, is the ideal of *service*. This is called the social century. In spite of war we are coming to see that each of us is bound

to all, and that no life is complete without the help of other lives. The conviction is steadily growing that the highest welfare of the individual lies in the success and happiness of society as a whole.

It therefore becomes not only the duty but the privilege of every person to render his quatum of service toward the common good, and toward the making of all as successful and happy as possible. It is the universal experience that personal happiness is most truly and certainly achieved only as the individual finds opportunity for the use of his powers in such social service. This means that man is created on too broad lines to be satisfied or happy under conditions of utter selfishness, or with the means of happiness and well-being lacking to others whom he might help.

Expressing the service ideal more concretely, education should not be looked on by its possessor as a means of escaping effort or labor, but of accomplishing a larger and higher service while attaining personal success. The end to be sought through trained abilities should not be the exploiting of the efforts of those less fortunate in ability or training, but the filling of a larger place in the scheme of the world's work and its play. Labor should not be looked on as an evil to be endured by those who can not escape its necessity, but as the worthy and natural expression of human life at its best. Any system of education that fails to inculcate this attitude has failed at one of its most critical points.

**Growth as an ideal.**—Another of the great values that should enter into every youth's life philosophy is the appreciation of *self-development* or growth. The manner of man's origin we know not, but his nature seems in some way tinctured with divinity. His capacities are therefore practically boundless both in number and quality. They are also capable of almost unlimited development. Every indi-

vidual at the beginning has the seeds of personality planted in his being through heredity. These seeds of power must be cultivated and nurtured through environment and training if they are to come to their full fruitage. Tragic indeed the fate of any person possessed of all but infinite capacities if he shall because of failure in his education go through life with these abilities undeveloped.

Education should reveal to the individual something of the inherent greatness and capacity of human nature, and create a hunger for growth and self-development. It should set the cultivation of the self as one of the great ends of life.

**The value of hopefulness.**—High in one's scale of values should stand the culture of *optimism* and hopefulness. A pessimistic, cynical attitude never goes with ambition. Pessimism cripples effort, lowers achievement, destroys happiness and contradicts a sound philosophy of life at every point. The molders of history and makers of civilization have been men and women possessed of a spontaneous hopefulness and deep belief in the value and outcome of some great idea or cause. The chronic doubter and faultfinder who merely complains and never hopefully constructs a new order which he believes to be better than what he criticizes is but a drag on progress. One's education should therefore lead him to believe in life and the future. It should strengthen his faith in the final victory of right, and make him a champion for its achievement.

**Caring for the opinion of others.**—One must also come to place a true value on *public opinion and esteem*. To do this without manifesting the cringing attitude of the time-server and sycophant requires a trained social judgment which may well be cultivated in the school. Opportunities for this type of training are abundantly found both in the

subjects of the curriculum and in the social organization of the school.

### *Cultivation of Interests and Tastes*

Education finds one of its chief functions in broadening, enriching and elevating the whole level of the child's interests. No phase of the mental life is more susceptible to training than our interests, which constantly respond to the material upon which they are fed. The character of the interests developed is highly important because interest constitutes the chief motive force of life. Interest is always dynamic, driving to effort and achievement, while the absence of interest leaves the individual crippled for want of ambition and initiative.

**The shaping of interests.**—It is true that interests are appealed to and shaped by many influences outside of the school and its work. But it is also true that the school, both from its associations and from the studies of the curriculum, exerts a powerful influence upon the molding of the child's interests.

During the elementary school age new interests are arising, especially such as look out on various lines of occupation and achievement. During the high-school age the wider interests in people and in vocations are taking form. The notions and whims of childhood are then being replaced by a more serious attitude toward life and success, and the individual is making plans for the lines later to be taken by his life.

The desideratum at this stage is vitally to connect lines of school interest and study with the concrete interests of the life outside the school. Incalculable loss and waste occur because of divorcement of school interests from the

outside occupational and social interests. The effects of this divorcement are seen in indifference toward the school, dropping out from attendance, and lack of attainment in lines of study which seem to have no direct bearing on concrete affairs. Further, wherever this divorcement obtains, the knowledge and skill acquired fail to function in the actual guidance and activity of experience, and the best educational results are therefore lost.

**Grounding the intellectual interests.**—During the school age is the time to cultivate the *intellectual* interests and tastes which finally give character and quality to the whole of the mental life. One whose intellectual interests remain narrow is in some degree shut out from the great world about him. He whose interests attach to trivial or unworthy lines of thought and are not appealed to by the more serious and important matters of his time lacks something of full development. Such a person will of necessity be limited in his recognition of opportunity and obligation.

One of the most promising opportunities of the school is, therefore, the cultivation of the intellectual interests. No more important question can be asked concerning any subject of the curriculum than whether it tends to develop what may be called a *continuing* interest. It is to be feared that interest in some subjects of the curriculum, whatever may have been its quality during the pursuit of the subject, often fails to carry over into the practical life outside of the school after the study is completed. Who of us has not pursued some line of study to the point of passing a satisfactory or even a superior examination, perhaps even winning a coveted prize, only to find our interest in this field suddenly fall away when the last requirement of the course had been met. On the other hand, we have followed certain other lines of study, the concepts and lessons of which we constantly meet in our life outside the school. It is mani-

festly the business of education to develop an abiding foundation of intellectual interests and concepts which will extend beyond the school, and carry on into the practical every-day life.

**The value of social interests.**—The range of our *social* interests, the interests that center in our fellow men, should not be less broad than the intellectual. Indeed the social interests are but a section of the intellectual interests specialized to a particular use. While we find the stimuli to social interests very plentiful in the workaday world outside the school, yet every person needs the definite broadening and balancing of his social interests which can come alone from the study of peoples—that is to say, a study of history, social institutions, literature, art and similar lines.

The school should bring to the mind of every child his relationship to other generations and times, and also his relation to his own generation. Whoever has not felt the inspiration arising from the thought of such relationship has lost one of the greatest motive forces to personal development and achievement.

**The vocational interests.**—The school should have a large part in shaping and rendering intelligent the *vocational* interests. Every normal child is looking forward to the time when he can really take a part in the world's work. He eagerly longs to try his hand at *doing* something. All his impulses are pushing him on toward participation and achievement in some line of occupation, and no small part of his mental life is taken up with dreaming about the conflicts and successes that will come to him.

The child has a right, while at this stage, to the information and training that will bring these blind impulses to intelligent planning for the future vocation. The time is now ripe for *vocational guidance*. Such guidance, at least in the earlier stages, should first of all consist, as suggested

above, in gaining a knowledge of the nature of the different vocations—the work they require, the difficulties they present, the rewards they offer, the type of ability they demand. In this way the youth will be helped in the critical process of “finding himself,” and he will in some degree be saved from selecting his vocation on mere whim, or from the thoughtless influence of family or friends who lack the trained judgment to render wise advice. Above all is this the time to ground an unshakable belief in the dignity and obligation of labor, and a contempt for a life of idleness and parasitic preying on society even if fortune may make it possible to live without working.

### *Ideals of Conduct and Achievement*

Youth is the time of ideals. It is therefore the business of education to contribute to the formation of the highest type of ideals of personal conduct and achievement. It is important that the child shall learn to admire the right types of character, and that his standards of success and achievement shall be gleaned from worthy sources. It is important that he shall come to look on all admirable qualities discovered in others with sincere appreciation, and that he shall turn from low or base qualities with aversion and disgust.

**Personal standards.**—Education, therefore, should serve to quicken the sense of value for all that is highest, best and most worthy in character and personality. It should place a premium on standards of personal honesty in every line of relationship. Growing out of this point of view will come a sense of the worth of dependability of character, and the necessity of cultivating traits which will bring confidence and esteem from others.

There should also arise in this connection a feeling of the value of personal courage, whether this courage be of the

physical sort that enables one to withstand hardships, danger or suffering in the accomplishment of duty; whether it be of the intellectual sort that enables one to step out upon new platforms of thought, willing to accept truth and its consequences wherever found; or whether it be of the moral kind, enabling one to stand secure in the presence of evil and temptation. It is equally necessary that the moral attitude be made to include such a sense of personal responsibility for achievement that all low aims shall become ignoble and failure to do one's part in society not only immoral, but a crime against humanity.

Such ideals, well grounded, can not but serve to quicken the attitude toward ambition, rendering one impatient of inaction or idleness. They will stimulate the individual to prepare for his vocation and to rise high in it. They will tend to develop a power of initiative and place a premium on originality and independence of effort. The results of such ambitions and standards are certain to show in the spirit of enterprise and to class their possessor among the efficient of his generation.

**Determining moral standards.**—Moral standards are also open to guidance and training. The school is rich in opportunities to shape the moral standards and develop ideals of conduct. It is indeed no great kindness to the individual and certainly none to society, to train the intellectual power and acumen, if we leave at the same time the moral motive undeveloped, or permit such a twist in the moral standards as may later cause the individual to prey upon society, either as a parasite or as a criminal. The school should, therefore, be jealous of its opportunity to mold the moral ideal and should certainly allow no part of the school associations, lessons, examinations or other factors to do anything whatever toward the lowering of moral standards.

It is to be doubted whether the school has been reasonably successful in inculcating moral ideals. True, the school has a difficult problem to meet in the teaching of moral standards which the child often sees constantly violated in the wider community outside the school. Yet the very existence of low moral ideals in social, business or political affairs makes it all the more imperative that the school shall seek to ground the young in the fundamentals of morality.

**The morals of the school.**—The school itself, we must admit, can not claim exemption from typical immoralities that are sure to some degree to carry over into later life. There is no small amount of evasion, trickery and “bluffing” in recitations. Cheating in examinations is all too common and is often looked on lightly by the pupils. Unfairness in athletic games is frequently condoned if skilful enough to get past the referee without detection. Appropriating books, pencils and the like from the school supply or other pupils is not called stealing. As a matter of fact school honesty and morality is commonly put on a different plane from business honesty and morality. It is not necessary to argue that this is all wrong, debasing to the character of youth, and that, where such standards obtain, there the school has its most important problem unsolved.

### *The Cultivation of Habits*

Not less important as a part of education is the cultivation of personal habits. Habit is not only one of the most important factors in one's development, but is a chief end of all growth and education. Here as in other lines of development the world outside the school plays its part, but because of the long time devoted to school attendance, and because of the constantly repeated program of certain re-

quirements, recitations and other exercises, the school is especially fruitful in habit forming.

**Habit forming in school.**—There is probably no place better calculated to develop the habit of achievement than the school room with its requirements and tasks. Here children learn, if their education progresses aright, to meet the hard and disagreeable, and not to give way in the face of difficulties. Through the attitude of his instructors and his schoolmates the child learns the penalty in loss of social esteem that comes to the “quitter,” or to the one who shows a “yellow streak,” in meeting hardships or measuring up to responsibilities. The problems of the curriculum should teach habits of persistence and steadiness of purpose. Here should be cultivated habits of punctuality, not only from being at school at certain required hours, but from meeting the recitation, library or laboratory requirements within the schedule set for them. Here the individual should learn to work under the stress of pressure and necessity, coming to see that his own personal desires and comforts, even, must sometimes stand aside before the dictates of necessity as set by a program of school exercises.

**Important habits to make sure of.**—The work of the school should cultivate the habit of open-mindedness, willingness to receive and welcome truth, and the ability to pass critical judgment on all problems confronting the individual. The anchorage of such habits cultivated in the school should keep one from being swept away by every current of public opinion, and from following madly the leadership of fad-dists and propagandists.

The associations of the school, perhaps even more than its studies, should lead to habits of emotional control. Particularly during the high-school age, emotional stress arising from the mingling of large masses of young people to-

gether, and especially from associations with the opposite sex, offers good opportunities for cultivating the emotional habits. Education should in no degree seek to weaken or crush out any of the desirable emotions, but should constantly lead in the direction of emotional balance and control. It is not that one should have eradicated from his nature the capacity for wrong or excess, not that he should be so patient or mild as never to hate, not that he is in danger of loving too deeply, but that in all these situations he should have cultivated such a mastery and control as that harmony and balance may result. His education should work to this end.

### *Tastes and Appreciations*

Cultivated tastes and the capacity for fine appreciations are one of the highest aims of education. One whose taste in reading leads only to the cheaply thrilling story, whose taste in music is satisfied with rag-time, whose taste in pictures reaches only to the colored Sunday supplement, has missed much of the best and most satisfying experience that can enter life. Inability to appreciate and enjoy a beautiful sunset, to take happiness and satisfaction from birds and flowers and running brooks, to respond with a thrill to the fine and heroic in the common lives about us, deprives us of half the joy of living and leaves our own natures deficient in the finer qualities.

**How tastes are developed.**—Such deficiencies as these are not cured by lamenting over the depraved tastes of our times—they are probably fully as good as those of any earlier time. The fact is that taste and appreciation grow by what they feed on. The remedy for low tastes is therefore not lectures on taste, but *better material to feed on*. The cure for cheap debasing reading is *better stories adapted to the*

*age and interests* of the reader. The cure for rag-time and the colored comics is *better music and pictures adapted to the grasp and appreciation* of the child. The same principle will hold for the whole range of tastes and appreciations, and it is one of the chief problems of the school to supply the material required for the various stages of development.

Summarizing our discussion, we must conclude that the group of qualities we have called *attitudes, interests, etc.*, is one of the primary aims of education. Each subject of the curriculum must do its share toward developing right attitudes toward the essential values of life and its activities. To finish the school with trained intellectual powers, but with narrow or perverted interests, with low standards of morals, with the spirit of artistry and achievement lacking, or with an indifferent set of habits formed, is to confess defeat and lost purpose in education. Cultivated tastes and ready appreciation for things that are worth while are evidence of true culture and attainment. Not alone what we *know* about our world, but how we *react* to it determines the worth of our education.

### QUESTIONS AND PROBLEMS

1. Do you know any pupil who has a bad attitude toward the school, or teacher, or toward some particular study? If so, how does this attitude affect his work and progress? What is the remedy?

2. Suppose a class, say in literature, has secured a reasonable range of information from their study, but has not developed an interest in reading *more of the same kind* of material. How would you rank the success of the course? Apply the same test to history, science, etc. What conclusions do you draw as to attitude being one of the chief considerations in teaching any subject?

3. Think your pupils over individually, and see whether you can

classify them on the basis of their ideals and ambitions for success and achievement. How can you, through your teaching, improve their outlook on life?

4. What is the remedy for an unsatisfactory attitude toward class-room honesty? Toward sportsmanship? Toward truthfulness? Toward business honesty? Toward work? The cure for snobbishness?

5. Try making a list of the bad habits, physical, mental, social and moral, which you discover among your pupils. Then seek a remedy for each class of bad habits. Have you any more important problem in your teaching than this?

## CHAPTER VI

### DEVELOPING SKILLS

**K**NOWLEDGE, interests and ideals are never an end in themselves. Their function is to influence action. Skill in *doing* is the ultimate end of education. It is how we *act*, how we *respond* to this situation or that, how we *conduct* ourselves under one set of circumstances or another that determines our efficiency. Deeds, performance, achievement are the real points of contact with life.

**Skills the end of knowledge and attitudes.**—The skills aim of education seeks to take the knowledge, powers, interests and ideals and set them at work in actual affairs. This aim undertakes to remedy the all too-prevalent defect in our education that permits so great a divorcement as commonly exists between knowledge and its use, between power and accomplishment, between theory and practise, between learning and efficiency. The skills aim takes the point of view that knowledge is power *only when applied* to concrete affairs, and when put at work in meeting the genuine problems and duties encountered in the day's life and its tasks.

We must admit that education has lamentably failed at this point in the past. For much of our learning has stopped very far short of skills. We have not harnessed our knowledge and set it at work. We have all along held to a more or less instinctive belief that learning is desirable and will surely lead to better and more successful living. We have felt that ignorance is dangerous and unprofitable. And this is no doubt quite true. But we have nevertheless done little

to insure that education shall really carry through to the point where most of our knowledge becomes efficiency in doing—to the point of *skill*. We have not always made certain that what we teach in the school shall play a vital and significant part in shaping life and determining success outside the school.

**Falling short of attaining skills.**—For example, how many of our children have better eyes, teeth, stomachs, lungs, more efficient and beautiful bodies, and longer and happier lives for the physiology they have studied? We teach them much about the anatomy of their bodies, about the chemistry of their tissues and about the physiological processes involved in circulation and digestion—but we do not always insure that they shall *live* better for having studied physiology. In how far do the pupils we teach speak more fluently and correctly and write with greater precision, ease and enjoyment for the grammar lessons they have learned? We teach them to analyze, diagram, parse, decline, and all the rest, but it is to be feared that not nearly all of this recondite knowledge becomes effective in actual speech.

In how far does the history we teach really lead to love of country and true patriotism? We have our children learn of “settlements,” wars, dates, political parties, presidents, etc. But none would dare to say that most of this knowledge *influences action* at such points of experience as test love of country and devotion to duty. And so with all the rest of our school subjects. That they all do help in some degree in the directions indicated is no doubt true. But that the results are what they should be, or that they have been the product of definite planning and wise educational foresight that definitely seeks such an end can hardly be claimed.

**A change coming.**—As was shown in an earlier chapter, however, *education is growing conscious of its function* as a very real and definite agency in human affairs. It is coming to realize that its purpose is not accomplished until there is an immediate and sure connection set up between what is learned in school and what is done or accomplished in the life outside the school. We are coming to see that what we teach is futile and incomplete until it eventuates in conduct and action—in *skills*.

### *How Skills Are Obtained*

As already implied the term skills is here used for the tendency and power to carry one's knowledge and attitudes over into action. This definition is very broad, and allows (1) for that narrower range of skills which can be made automatic by repetition and practise, and also (2) for the more general and complex skills which constantly require thought, reasoning, adjustment. Typical of the narrower skills are speech, bodily poise and carriage, manual dexterity, the simpler memory associations, etc. Typical of the broader skills are one's ability to carry the truths he learns in arithmetic over to his practical affairs and set them at work there; his power to make his study of language show in the speech he daily uses; his tendency to make the ideals, standards and ambitions developed by his study in school become an active reconstructing influence in his practical life and affairs.

**Skills based on practise and application.**—Skill in any line is an art; it develops gradually by practise and repetition. We are skilled only when the act or the tendency to its performance has become second nature, and its performance is effective in accomplishing the purpose in view. Acts

which must be guided by conscious decision and purpose are labored, uncertain and inefficient. But let the act grow by intelligent practise until it becomes habit, and skill is sure to emerge in the process.

It is this simple fact of psychology that explains the difference between mere *learning* and *efficiency*. Learning is a necessary guide to action if the skill which develops is to be intelligent and useful. But learning alone, as already shown, never spells efficiency; it must first be carried through to skilful performance. As a simple illustration: the boy who has an ambition to learn how to pitch a curved ball does not spend all his time studying the resolution of forces and the resistance of air to spherical bodies revolving on an axis as they are projected through space. Certain knowledge of this sort is desirable if not necessary to one who would master the art of curving balls. But along with his learning our boy must not forget to practise at pitching curves. His knowledge of the principles involved will guide his pitching, *but he must pitch*.

**Knowledge only opens the way to skill.**—So with any other form of learning. We teach our children number in order that they may be able to make the practical computations needed daily in the common occupations; then our instruction must furnish practise in the numerical computations to be met in these occupations. We teach language that our children may attain greater fluency, ease and effectiveness in the use of good speech; then our instruction must give abundant practise in those language forms that will lead to such ends. In short it is not *knowledge* of number that we seek, but *skill in numbering*; not knowledge of language forms, but *skill in speech*. And skill, we repeat, requires application and practise. *We must see that knowledge carries over into performance.*

*Physical Skills*

By physical skills is not meant mere dexterity of hand or some extraordinary ability in games or handiwork. The concept rather involves the mastery and adaptation of the whole body, including its growth, health, carriage, habits and the training of the hand to its purposes.

**Skill in maintaining health.**—How much working efficiency is destroyed, how much happiness lost, and how many lives shortened through the lack of skill in judging and caring for our bodies! There can be no more important part of education than that which results in more hygienic eating and drinking, wiser expenditure of energy in work and recreation, better care of skin, teeth, eyes and other organs, the securing of better air to breathe, and in general the setting up of those habits of living that favor physical efficiency and length of life. There is little doubt that effective instruction directed to such ends could extend the average span of life by a number of years, relieve much of the misery caused by sickness, and greatly enhance working efficiency.

**Skill in physical bearing.**—Physical poise, carriage and dignity of bearing are also an essential part of education. They are in a large measure developed outside the school, and yet the finer aspects of such skills almost invariably depend on instruction and conscious direction. Physical training that results in mere athletic prowess while neglecting formative and corrective training for the whole body has missed the mark. The star quarter-back who when off the gridiron ambles and shuffles in his gait, or the record track man who is ungainly and unimpressive in his physical bearing, is a standing accusation against the system of physical

education in his school. Careless carriage, stooped shoulders, awkward attitudes and general inefficiency of bearing are not only adverse to health, but are a real drawback to success in the business and social world. They should be eliminated through education.

**Manual skills.**—Manual skill, or the attainment of proficiency with the hand, is a highly desirable phase of training. Man owes his predominance over the lower animals not less to the possession of a hand than to his superior mind. It is the hand which most fully and perfectly carries out the mind's dictates, and which is in the last analysis responsible for our civilization and progress. Not only does skill in the use of the hand yield the possessor satisfaction, but there is hardly a vocation in which such skill will not prove of service. A highly specialized manual skill lays the foundation for certain vocations, such as the industrial, the technological, or that of the artist.

**Skill in speech.**—An important part of physical control is the skill that has to do with speech. This involves a proper use of the voice, good articulation and enunciation, readiness and fluency. Relatively few people are as effective speakers, either in conversation or more formal speech, as they might be. Whatever may be one's relations in life a high degree of efficiency in speech will increase his chances for success and make him more efficient in his associations with other people.

**Skill in play.**—The cultivation of one's physical skill extends to ability in plays and games. The English in large part excel Americans in the degree to which amateur ability in avocations has spread to include a large proportion of the population among all classes. We are a nation devoted to sports, but are too easily satisfied by employing experts to play before us while we sit idly by as spectators, enjoying the contest as a mere spectacle without participating in the

play ourselves. Not only life and happiness, but physical efficiency is in no small degree dependent on the cultivation of play interests and play skill.

### *Mental Skills*

It is one thing to have a well-disposed mind adequately stored with knowledge, and quite another thing to be able to use this knowledge readily and with skill when required. There are many adults as well as children who "know but can't tell," who "understand but can't explain," who comprehend the point at issue but can not make it clear to others.

**Ability to think under stress.**—In a large proportion of the problems to be met in the course of practical affairs, one must reason and decide under stress. He must be able to "think on his feet," and in the presence of people. He must be capable of marshaling facts, weighing evidence and reaching conclusions on the spur of the moment. He must have the power to rise above prejudice and the influence of opinion and decide things for himself on their merits. He must possess initiative, and learn to rely upon and have confidence in his own judgment. He must develop habits and standards of thoroughness in thinking, and not be satisfied to jump to a conclusion.

One of the chief functions of education is to develop this mental skill. Not what one takes in, but the extent to which he is able to command his mental powers is the final measure of his education. To this end, the knowledge mastered must be of the right kind, and must be so organized that it will readily apply to genuine problems. A high degree of mental alertness must be cultivated, and the ability developed to concentrate all available power on whatever matter is in hand. Mind-wandering and the habit of mental dawdling and dreaming must be cured. Memory must be

come not only accurate, but ready, not failing at important points, nor hesitating until too late for its material to be of use. Imagination must be vivid, and capable of constructive activity in many fields. The capacity for observation must be made strong to see, hear and apprehend quickly and accurately in our physical and social world.

**Securing emotional control.**—Mental skill also extends to the field of the emotions. One must develop control under emotional stress. He needs to learn how to “be angry and sin not,” to fear and not give way to panic, to hate without losing his sense of justice. Strong emotional power is as necessary to a successful life as strong intellectual power, but to be safe it must be balanced by an adequate degree of restraint and control.

### *Social Skills*

The cultivation of skills must also carry over into the realm of social relations. By social skills are meant those social qualities and arts by which others come to know us, judge us and give us our rating as members of our social group.

Sympathy and appreciation need to be aroused and quickened. The capacity to enter into the thoughts and feelings of others must be developed. No one lives to himself but each is in constant association with others whom he must come to know, judge and understand daily and hourly as they live, work, play together. Much of success and efficiency depends on the skill thus to adjust ourselves to those about us.

**Working toward social skills.**—No small part of the pleasure and outcome of life depend on this social adaptability. Children are normally self-centered and devoid of tact. Such attitudes must give way to altruism, courteous

behavior, and care for the feelings of others. The quarrelsomeness that characterizes certain stages of childhood must yield to more harmonious and adaptable qualities. Impudence and flippancy must change to attitudes of respect and seriousness. Loyalty and sportsmanship must be grounded, and many other social graces cultivated.

Social ease and poise are also to be acquired. Not to be able to meet other people easily, freely and without embarrassment is to fall far short of the end of education and development. It is true that the cultivation of this ability does not depend exclusively on the school. The school associations however, and in some degree the curriculum, will tend to cultivate social ability at points not touched upon in the associations outside the school. Education should lead to a respect for the social conventions and skill in their use. Any education which leaves the youth either uninformed or unskilled in what may be called the smaller niceties of behavior in society and social gatherings has in some degree failed in its duty to the individual.

**Skill in leadership.**—Qualities of leadership should also be stimulated through education. The world needs followers as well as leaders, but there is small danger of overdeveloping the more solid and fundamental qualities which make for leadership. Every youth should become ambitious to exert influence among his fellows, and should in some degree become skilled in the use of his social powers to this end.

### *Moral Skills*

No greater need exists in our civilization to-day than the cultivation of moral skills and control. A nation or a civilization is in the end no stronger than its morals—not its moral theories, but its *moral practise*. For, lacking essential

morality of life and conduct, nothing else of value can long survive among a people or in an individual.

**Difficulty in developing moral control.**—There is grave reason to doubt whether we are as successful in training the moral skills in the school as we ought to be. True, it is easier to train to intellectual skill than to moral. For the practise of morality often carries one against the current of inclination and desire. It demands resistance, self-denial, restraint, all of which is disagreeable. The result is that few of us do as well as we *know*. Paul was but expressing an all-too-common experience when he said, "The good that I would I do not; but the evil which I would not, that I do." Our moral theory always outruns our moral practise.

The school, as suggested in an earlier chapter, confronts a very difficult problem in moral training, owing to many influences outside the school which tend to contradict the highest moral ideals. Yet the school itself is not without fault. Surely the work and life of the school should be so organized that moral conduct is the natural and easy thing, and that immoral conduct will not commonly net an advantage to the one who practises it.

**Standards of moral action.**—To be on safe ground, the individual must find himself able to be honest when to be honest costs; to be just when injustice would yield personal advantage; to be loyal to friend or worthy cause when loyalty means sacrifice; to tell the truth when lying would be altogether easier; to be clean when impurity appears in inviting form; to be courteous when anger or resentment stirs the blood; to be true to an ideal when the immediate result is pain or suffering. It is the business of the school, in common with other agencies which serve to educate, to *train in the practise as well as in the theory* of these moral virtues.

**Power to meet the disagreeable.**—Moral skill has also

another point of application,—that of enabling us to meet and triumph over the disagreeable. It is easy enough to secure cooperation and high effort in all directions which are pleasant and which lead to agreeable experiences; but it is often hard to find those who are able to stand steady when they meet the hard and unpleasant. Those who are ready to champion a just but unpopular cause are far less numerous than those who are ready to go with the crowd.

Here as in other lines the relations outside the school have an important bearing on the ability in question, yet the life of the school, together with the lessons of the curriculum should be made to have a most important effect on the moral sturdiness and fiber of the character. Any system of education which has failed to take into account the necessity for cultivating moral skills, or which has failed to work out a program giving daily practise to the moral qualities in the school room has in so far proved itself a failure.

Reviewing our discussion, we have seen that any training in knowledge, or shaping of interests and attitudes, is incomplete which does not seek to arrive at *practical skills* as their aim. Life finally expresses itself in terms of action, conduct, achievement. It is the business of education to carry its training through to this end. This point of view therefore sets the problem for each branch of the curriculum, and for every teacher—to make the subject-matter and the process of learning it eventuate in some concrete and necessary form of skill in the learner. Knowledge, from this standpoint, can never become an end in itself, but only a guide to intelligent skills. Interests, ideals, ambitions do not exist for their own sake, but ultimately as incentives to right action.

From the last three chapters we are justified in concluding that no educational aim is complete, no educational pro-

cedure effective, that does not take into account these three great purposes: (1) the gaining of fruitful knowledge to guide in practical experience, (2) the grounding of right attitudes, interests and ideals to motivate conduct, and (3) the practical putting of our knowledge, interests and ideals at work in daily conduct leading to the skills required for successful living.

### QUESTIONS AND PROBLEMS

1. Think over your own education and study, seeking to discover places at which the knowledge you learned *did not function*, i. e., did not make you *do* differently in any way you can discover for having learned it. What was lacking? Was the knowledge itself at fault, or was there a failure to carry it over into use?

2. Think over the subjects you are teaching, and ask yourself about each of them: Just what skills is this branch cultivating in my pupils, how are they *thinking* differently or *doing* differently for what I am teaching them? If you can not be sure, is this a suggestion that you should make your teaching more definite?

3. Study the postures of your pupils as they sit or stand or walk. Do they need to cultivate physical skills in these directions? Do you find some who, through embarrassment or fear, lose command of their mental powers when they most need them? Some who lack control of their anger, jealousy, affection? If so, how can you help them to develop the missing skills?

4. Have you some pupils who are shy and ill at ease when in the company of others? Some who have uncouth manners and who lack social tact? If so, can you devise ways to help train to the skills required?

5. Have you certain pupils who are not safe in the presence of temptations to cheat, lie, steal? If so, is it from a lack of *knowing* the wrong of these things, or a matter of low *standards*, or a failure to *practise* moral resistance, i. e., to develop moral skills? How can you help such ones?

## CHAPTER VII

### THE SUBJECT-MATTER OF EDUCATION

**I**N the preceding discussion we have seen how method rests on a fourfold foundation—*first* the aim, *second* the material, *third* the organization, and *fourth* the presentation. We now come to the problem of the *material*, or the subject-matter of education.

#### *Present Readjustments of Subject-Matter*

What, then, shall one study as subject-matter? What shall we teach our children?—Or does it especially matter? Is it true, as one college professor advised his long-suffering class: "When you have found the matter that seems to you most difficult, dry and useless; when you have discovered material that has no point of contact with your interest and experience, but which must be mastered by sheer force of will—this is the subject-matter to which you should give your days and nights of study if you would become scholars!" Is such a dreary way the true road to education? Can such an empty grind develop the powers, enrich the life, and fit one into his place in the busy world? Because "there is exercise for the jaws in chewing even sole-leather" shall we feed our children on such dessicated mental pabulum? Or shall we feed their minds, nourish their powers, and stimulate their interest with the rich food of vital and valuable subject-matter?

**New emphasis on subject-matter.**—The fact that such questions as these are arising with increasing insistence

and frequency is indicative of a new and marked movement in education. The content of the curriculum, the subject-matter of education, is at present undergoing a most rigid examination. We are setting earnestly at work to reconstruct the curriculum of our schools. To this end we are passing the subjects in review with reference to their value as educational material. Every branch is being subjected to scrutiny for the purpose of discovering its right to the time and effort of the child.

The old order is giving way and a new day is at hand. We are now coming to see that what we put into our schools as educational material finally comes out in life, character and efficiency. History has shown us that what a nation feeds the minds of its youth through the medium of its schools at last comes to dominate its social and national ideals. Growing out of such considerations as these we are becoming convinced that education time is too precious and the interests at stake too great to squander time on obsolete or useless material.

**Two factors responsible for recent changes.**—Two chief factors have recently led to the present critical examination and revision of the subject-matter of education. These are, (1) the *breakdown of the disciplinary conception* of education, and (2) the wonderful increase in recent decades of *new material* seeking admission into the curriculum.

There is no thought nor necessity of entering here on an extended discussion of the merits or shortcomings of formal discipline as an end in education. We are chiefly concerned in our present question with what has actually occurred or is now taking place in connection with the disciplinary aim and its relation to the present-day educational subject-matter found in our school curriculum.

**The disciplinary concept of education.**—Advocates of

the disciplinary theory of education have pinned their faith to the "discipline" of so-called mental "faculties," through their exercise upon hard study. Not the *content* to be mastered but the *fact of the mastery* itself is chiefly depended on for the educational value achieved. The disciplinarians have been fond of using the analogy of the body's need of exercise in support of their argument for mere mental effort as the means by which the ends of education are chiefly to be attained. They like to say that "mental powers grow just as physical powers develop: by their use." Therefore, urge these theorists, "train the mind by severe exercise and it will naturally follow that you will see it grow and develop."

The opponents of this view, however, suggest that those who employ such an analogy should not forget that back of bodily exercise must be the assimilation of suitable and nutritious food if strength and development are to come from the physical exercise. In like manner they say that along with the use of mental powers the mind must be fed on fruitful, nourishing subject-matter, such as will stimulate its powers, arouse its interest and call forth its effort. Changing the figure, the mind comes to its full strength and power, not by buffeting intellectual punching bags nor by fighting mental "men of straw," but by grappling with vital problems full of the zest of life and action.

**The breaking down of the disciplinary concept.**—Without going further into the discussion at this point, we may at least state one patent fact: *the disciplinary concept of education has broken down*. Not that the old doctrine of discipline does not still retain a strong hold on education; it does, and probably yet dominates at least one-half of the curriculum. But the wedge has entered, and the structure of educational theory, so laboriously erected by John Locke and his followers, is finding its foundation undermined.

It may be worth while briefly to state the principal factors whose influences are discrediting the disciplinary view and forcing a reconstruction of the present-day curriculum:

*First*, experimental psychology has shown that, even if training may in some degree be carried over from one ability to a related power, the waste by this round-about method is nevertheless inexcusably great. To found a system of education on such a concept is a senseless squandering of the priceless treasure of time and educational opportunity. Psychology has further shown that better training, better *discipline*, if you will, of the mental powers can be had from the study of educational material that calls forth the interest and enthusiasm of the learner than from any empty grind on useless material.

True, the disciplinarian tells us that where interest and enthusiasm are lacking there the will is being trained through study. But Doctor Dewey has shown in his brilliant essay on *Interest and the Will* that the will is no such isolated power that it can thus operate independently of the other processes of the mind. The best development of the will, like the best development of the thought powers, comes only when the *whole* self gives its assent to the work in hand. And the whole self is brought into action only when interest calls. Nor does interest kindle from contact with dead and formal material that has no vital relation to the genuine problems which alone grow out of actual affairs. True discipline results only from mastery of what the mind works on; and any full or adequate mastery of disciplinary subjects in our schools is, as Flexner argues,<sup>1</sup> the exception rather than the rule.

*Second*, the great social force that we call the *public* is making itself heard on the question of the curriculum.

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<sup>1</sup> Flexner, *A Modern School*, page 6.

Partly through the teachings of psychology and the science of education made known by means of the press and platform, and partly by an innate common sense of its own, the public has lost faith in the old disciplinary education. This public is now demanding a curriculum which it believes contains a larger proportion of vital and useful material related to the needs and problems of actual experience.

While society is not always conscious of the processes by which it arrives at its conclusions, it nevertheless does form judgments. Sooner or later it makes itself heard, and its voice must be obeyed. And it is undoubtedly well, on the whole, that this should be so. For, though we of the educational guild may be loath to admit it, most of the great educational reforms have come from the people, or from such leaders as have lived close enough to the people, to sense their half-formed thought and formulate their imperfectly felt ideals. Surely none who are in touch with the world of affairs can doubt that there is at present a growing social demand for more fruitful educational material in our schools.

**The rapid increase of educational material.**—The other great factor which is forcing a revision of the subject-matter in our curriculum at the present day, the increase of available educational material, will not require extended comment. It will be remembered that the dream of Bacon and Comenius and others of their time was a *pansophic* scheme of education—the student was to learn all there was to know. At that time well-trained minds could seriously consider the possibility of expecting one individual to master the whole field of human knowledge.

While undoubtedly such an ideal for education was always impossible, yet it was not until well on in the last century that investigation, discovery and general progress

in human knowledge resulted in such an increase in available material as to make it possible greatly to enrich the school curriculum. It is about a century since Harvard added *geography* to the list of its entrance subjects. The various *material sciences* entered the field one by one and knocked at the schoolhouse door, asking to be let in. Along came *history*, which has since been divided into many fields, civil government of the state and nation, political economy and the elements of sociology. The *modern languages* have entered a plea for recognition and have taken rank with the ancient languages, which originally dominated the field. *Nature study*, *music* and *art* presented their claims and were added to the course of study. And now come the vocational group, *domestic science*, *manual training*, *agriculture* and other subdivisions without number, clamoring for a place. So rich is our supply of educational subject-matter in this day that our great problem is not, as in Bacon's time, how we shall master it all, but how we shall make from it the best selection for our school curriculum.

**The overcrowded curriculum.**—This problem has become acute and it presents many perplexing difficulties. Upon its wise solution depends much of the future success of our schools. The curriculum of the elementary school is full, pressed down and running over without any further additions. It contains now too much matter to be successfully mastered by the pupils or well taught by the teachers. No longer starved for want of enough material to put into the curriculum, our schools are surfeited to repletion, if indeed not to nausea, with more than can be assimilated. Something must give way. Additions from this time on mean subtractions. The old subjects can no longer merely "shove over" to make room for the new. As the new fights for a place the old will be obliged to contend for its position. The process of "enriching" the curriculum must have for

its twin the process of *eliminating* the useless and obsolete subject-matter not suited to the present aims and requirements of education.

**Directions taken by the present reconstruction.**—The reconstructions now going on in the course of study are proceeding in two main directions: (1) The displacing from a dominant position at the head of the high curriculum of the old disciplinary standbys, the ancient languages and mathematics, and substituting for them a variety of more concrete subjects; and (2) a thoroughgoing reorganization within the different subjects themselves, both in the elementary school and the high school, with the purpose of dropping out such material as can not show a direct relation to some very immediate educational value.

The *first* of these movements has found expression in the introduction of elective subjects and parallel elective courses of study in secondary schools. Higher institutions have modified their requirements to meet these changes in the lower schools. Many leading colleges now admit with no ancient language, and a very moderate mathematics requirement. An increasing number of these institutions grant the Bachelor of Arts degree upon graduation with no Latin or Greek and no mathematics beyond solid geometry.

The *second* of the movements mentioned has been slower in getting under way than the first, but bids fair to be no less far-reaching and important. The work of revising and enriching the elementary curriculum so well begun by Professor John Dewey, Colonel Parker and others of their school, has borne much good fruit. University schools of education have been earnestly at work seeking to relieve the overcrowded and all-too-fruitless curriculum without losing from it elements of value. Many administrators, teachers and students of education are skilfully insisting that arithmetic, grammar, geography and other elementary subjects

shall have the dead and useless material dropped from them, that the vital material may be more fully mastered. The National Education Association and various state associations have appointed committees to study the curriculum, and several valuable reports have been issued recommending the elimination of useless material. Unquestionably, great and significant changes in the material of education within the accepted subjects of our schools are still ahead.

### *Subject-Matter Determined by Aim*

What are the principles that should guide in the selection of subject-matter? How may we know whether the curriculum we teach or administer needs further enrichment or elimination? How are we to judge what mental pabulum should be fed the child and what excluded from his educational dietary. On what scientific basis can we evolve a *balanced ration* for the mind? And how is this related to our problem of method?

We may enter on this section of our discussion from the fundamental proposition already stated, that *the content, or subject-matter of instruction, must be determined by and be adapted to the aim sought.*

This statement is to be taken very literally. The principle may be difficult of application at certain points, but of its truth and importance there can be no question. To deny its validity is to say that an end may be sought without reference to the means employed for the attainment of that end, or that a goal may be reached without any care in selecting the road which leads to the goal. All of which is of course futile and foolish.

**Determining the material by the aim.**—Let us approach the question somewhat more concretely. Let us for the purpose of illustration, for the moment take our

position with those who subscribe to the disciplinary theory of education. Let us conceive that the primary aim of education is to "train the mental powers" and not to gain concretely useful knowledge or develop any particular attitudes, or skills. Let us believe that hard study, even if distasteful and compelled by stern authority, is more important than just what material one studies upon.—What then shall we choose for our subject-matter?

In answering, let us apply the principle with which we started; *the subject-matter must fit the aim*. The aim is hard application, logical sequences, exact, as well as exacting, tasks, with no great care as to the content. We shall therefore select as the basis for the curriculum such studies as will fulfil these requirements. They must be difficult enough to compel effort, and rigidly enough organized to give sequence and sustained continuity to the work required. All other values give way to these. The concrete or applied value of the material is not the determining factor.

**Subject-matter as determined by the disciplinary aim.**—It is this point of view that has made the foreign languages, and especially Latin and Greek, the core of the disciplinary high-school curriculum. Throughout the first several years of their study their literary content is obscured by their linguistic demands. Grammatical relations are always difficult, and therefore test the powers. Such linguistic relations are reasonably exact, and hence require fine shades of discrimination. They are organized into a wonderfully complete logical system, in which part fits to part to construct the marvelous mechanism that we call a language and it demands effort to master such a system.

**The languages.**—If education is conceived as resulting from putting forth so much effort for its own sake, then certainly the various conjugations and declensions, the endless rules and their exceptions, the cases, moods and tenses,

the difficulties of translation and composition—all these supply the ideal material for attaining our aim. It will not matter that the ancient or modern civilizations may be approached more easily and their spirit entered into more completely through the medium of one's mother tongue; for *hardness and difficulty are precisely what we seek in order to "train" the effort*. It will not matter that the relation of the foreign language to one's own may be arrived at more simply and in less time by another method than that of long-continued translation or much study of the grammar of the foreign language; the *aim is not simplicity and economy of time, but difficult requirement to discipline the powers*.

**Mathematics.**—The same principles apply in the case of the abstract phases of mathematics. If, for example, arithmetic is to be taught chiefly as a mental discipline rather than for ready efficiency in the use of numbers, then we shall devote the larger part of the arithmetic time to the solution of problems in unnecessarily difficult analysis rather than to drill on the fundamental operations or to practise on problems such as arise in the every-day life. If we are controlled by the disciplinary point of view we shall give much time to the mastery and application of algebraic formulas rather than to the mathematics of business and the household.

For not the knowledge and the skill required in common experience, but the *effects of the effort* expended will be the measure of the value attained. Indeed it is the relative lack of content, the exactness of logical organization, and the supposed difficulty of mastery that have made mathematics take rank with the languages in the disciplinary curriculum for generations.

**Making even the sciences serve the disciplinary aim.**—Yet the disciplinary aim of education may find its material outside the field of language or mathematics—and does

Even the material sciences may be so treated as to afford a *minimum of content* for a *maximum of effort* expended in their mastery. Let us suppose, for example, that we wish, not primarily to give the child concrete knowledge of nature as he meets it from day to day in his common life, but seek rather through the study of science to "train the mental 'faculties.'" We shall then not start with that part of the physical world that is close at hand and can be seen, touched, used and handled; for this is too easy and lacks logical arrangement. On the contrary, we shall start with the distant, the abstract, the logically organized; we shall first teach the "exact," the "pure" sciences.

More specifically, if we are teaching the child botany, we shall not, if we are guided by the disciplinary aim, introduce him to the great world of growing things all about, but to a few rather uncommon specimens of plants. These he will "analyze," and run down in a plant "Key." He will classify them, label them, and perhaps press them, and preserve them in an herbarium. Of the commonplace flowers and plants of his daily environment, and more especially of the useful ones, he will learn little or nothing; for such knowledge would lack rigid classification; it would have content value, and might turn out to possess "utility"; and what we are seeking is "discipline."

In similar fashion, under the disciplinary aim we shall teach for geography, not what lies nearest at hand, but the distant and unreal, the small or unusual—a great mass of information lacking practical importance, but requiring much effort in its mastery. In physiology we shall teach the minutiae of anatomy, and the intricate but hidden physiological processes, but omit or neglect the fundamental laws of health and longevity. And these things are precisely what, under the disciplinary aim, we have been doing in all too many of our schools.

**Subject-matter as determined by the social aim.**—But suppose we refuse to subscribe to the disciplinary aim of education. Suppose we insist that all this type of education we have been describing misses the mark, and that education must result in *useful knowledge* as measured by the day's needs and its problems. Suppose we insist that right *attitudes, interests, ideals* and *tastes* are of prime importance. Suppose we demand that *practical skills* shall be trained. What then shall we say about the subject-matter? What then shall we teach the child?—We can only say then as we said in the former case: *The subject-matter must fit the aim.*

If, for example, we agree that a mastery of the "tools" of knowledge is of first importance to the child, if we believe that certain fundamentals in reading, language, number, writing and spelling should early be made automatic and certain, then we must teach the *kind of material that will secure these results* instead of other results. We must not put our time on abstractions, meaningless definitions or empty verbal forms, but on the content that will yield the desired skill. The things that are *needed* are the things that must be taught. The skill that is sought must be obtained through drill in the responses required.

**Material for English.**—This is to say that the child will learn to read his mother tongue by much practise *in reading*, both silent and oral. This reading will be vital, stimulating and on matter suited to the interest and capacity. The child will learn to write and punctuate by much writing and punctuating, and not by the mere learning of rules. Furthermore, the writing and punctuating will be on such matter as the child has ready to express and is interested in expressing. It will not deal with themes foreign to his knowledge and interest and concerning which he has nothing to say except under the compulsion of the school room.

His own work, his play, his lessons—the real experience of the day's life will supply the themes for his writing.

In similar fashion, spelling will be learned, not from a spelling book containing from eight to ten thousand words, as is the case with the average spelling text of to-day, but from the smaller list of words which actually constitute the vocabulary of the child in the grades. Drill and practise will be had on these with special attention to the ones likely to be misspelled, until their spelling is automatic and secure.

**Number material.**—The fundamentals of number will not be learned through difficult analytical processes beyond the grasp of the child, nor by the teaching of complicated problems never to be met outside the walls of the school room. Difficult and complex fractions with impossible denominators, and obsolete tables and measures no longer employed in business or industry will not be allowed to claim time and effort. We shall rather depend on plentiful drill on the fundamental operations of subtraction, addition, multiplication and division to make these skills automatic and trustworthy. We shall give abundant practise on concrete, sensible problems daily arising in connection with natural interests and activities, and by such exercises will make number a vital, interesting and useful part of the daily experience.

The same principles will apply in mastering all fundamentals required as instruments in the learning of other subjects or in the common experiences of the day's life. One of the most necessary problems in education is to discover the *things that are fundamental* in the training of our children and then make sure that these fundamentals are mastered so completely that their use requires no hesitancy or deliberation, and that the skill and certainty of mastery are secure.

**Content of other subjects.**—In more advanced subjects we must proceed from the same point of view. If, for example, we believe that a knowledge of the body and the laws of health is the first aim in the teaching of physiology and hygiene, we shall then select those phases of physiology and hygiene that will result in the particular knowledge desired. We shall not begin with the names of the bones, the classification of tissues, and the intricate physiological and chemical processes of digestion and assimilation. We shall, rather, deal with the practical and concrete material that relates to the aim we seek.

If we conclude that the study of science should result in a knowledge of those phases of nature that most constantly touch our lives and affect our interests, then we shall find the first and most important material for science study in the immediate environment of the child and not in the more distant laws and principles underlying scientific study. If we affirm that a love for reading and the enjoyment of good literature are more to be desired than an intimate knowledge of literary structure and the laws of literary criticism, then we shall emphasize chiefly in our teaching of literature, not the canons of literary criticism, but the factors that will lead to appreciation and enjoyment. *We shall make the material fit the aim.*

**The principle involved.**—But further illustrations of the principle involved are not needed. It is obvious that if we would make our teaching fruitful we must first of all *have* a definite aim, and then select as subject-matter such *content* as will realize the aim sought. The problem of selecting the subject-matter is partly one of administration, in the determining of subjects and text-books for use in the course of study. It is also partly a question for the individual teacher, who has certain latitude in the selection or

rejection of material within a given text and the choice of supplementary matter.

*Distribution of Subject-Matter According to Age, Capacity and Interest*

Not only must subject-matter be selected to fit the aims of education, it must also be adapted to the *age and capacity*, the experience and interests, of the learner. In obedience to this principle it must constantly be kept in mind as was stated in an earlier chapter, that we primarily teach *pupils* and not *subject-matter*. We must never forget that the material of the curriculum exists for the children and not the children for the subject-matter.

**Adapting the material to the learner.**—It is wholly essential that the subject-matter be adapted to the learner. There is no more harmful educational folly than that of attempting to force upon children material too advanced for their stage of ability and development. It is a pedagogical crime to press upon the minds unready for it the logic of grammar or mathematics too difficult for their grasp. It is the grossest of educational blunders to teach to young children phases of subject-matter which call for close analysis and difficult associative processes when the brain machinery is not yet ready for such work.

The waste growing out of teaching such ill-adapted material comes not alone from inability to master the too difficult subject-matter, or from failure to find immediate use for it in further study and learning. The waste from such sources is sufficiently grievous but it is far exceeded by the harm arising from the attitude of discouragement and distaste for study sure to accompany such methods. It can never be known how many promising careers have been

wrecked by compelling unripe minds to attempt subject-matter too difficult, and hence devoid of meaning or the possibility of application.

**Material that is too difficult.**—Our human nature, and especially child nature, is so constructed that nothing succeeds like success. Nothing heartens and calls forth hidden effort like the victory of achievement and the consequent *sense of power*. On the other hand, nothing cripples effort, discourages ambition and reduces the amount of available power like continued failure and the constant feeling of helplessness in the presence of unmastered problems. There are in our schools to-day literally thousands of discouraged, ambitionless children, floundering in a maze of half-learned material, lacking all sense of victory and robbed of the initiative and endeavor that come from certainty of achievement. True, the child must meet difficulties and exert effort in order to develop his powers. But the difficulties met must be surmountable and they must, at least a reasonable proportion of the time, be *surmounted* if development is to follow.

Probably no one greater weakness can exist in an educational system than that of constantly giving pupils either (1) too much subject-matter to cover, with too little drill and application to render it secure through mastery and use, or else (2) giving them matter that is too difficult, thus resulting in bewilderment, discouragement, loss of self-confidence and consequent failure of interest and enthusiasm in education.

**Material must have point of contact with experience.**—But not all subject-matter adapted in difficulty to the age and capacity of the learner is suitable educational material. The subject which claims the child's interest and effort must also be connected with his actual experiences and have immediate point of contact with his activities. While ideals

are beautiful things, there always exists an element of fallacy, especially for children, in an ideal that is too distant. Even the older ones of us find greater incentive in a reward, a necessity, or an interest that lies close at hand. The distant reward, the far-off necessity, or the long-deferred compensation affects us but little. Much more does the child, who has not yet learned to exchange the present comfort or pleasure for a future good, require the grip of immediate interest such as arises from the concrete activities of vital experience.

Every one has noted the enthusiasm and effectiveness with which the boy will master the intricate rules and requirements of a game in which he is ambitious to excel. The desire to enter on the construction of some coveted article in the manual-training shop has proved for many pupils a stronger incentive for the mastery of practical arithmetic and drawing than any compulsion that could be brought by the teacher.

All this is, therefore, to say that the subject-matter of the curriculum should have the closest possible point of contact with actual experiences and needs. It should relate in the fullest possible measure to present interests and activities and not have merely a promise of future value.

**Applying the principle.**—Practically applied this point of view reenforces that suggested in the preceding section. The subject-matter of language should be principally found, not in abstract themes or topics but slightly related to immediate interests and necessities, but rather in such activities as the handicraft, the home enterprises, the social interests or the play activities of the pupils. Arithmetic should be an instrument demanded in the solution of immediately present problems in agriculture and garden projects, manual training, home economics or other real interests in the day's life. Reading and literature should appeal to interests and

enthusiasms present in the life and ready to be drawn upon. Geography should start with that portion of the earth's surface which lies nearest at hand, and most closely identified with the learner's interest.

Such a selection of the subject-matter as will adapt it to the child in place of seeking to force the child into a ready-made or mechanically devised system of studies is one of the most insistent problems in education. Its solution should engage the attention of all students of psychology and the science of education. It should occupy the thought and claim the ability of administrators of education everywhere. It should appeal to the individual teacher as one of his hardest problems and greatest opportunities.

### *The Selection of Subject-Matter*

In the actual practise of class-room instruction, the selection of material presents many difficulties. A teacher may have a very clear aim for his subject and know the particular material which will accomplish the aim sought, and yet be hampered by a text-book (or even by a course of study!) whose material is but ill adapted to the purpose in view. With a given text-book in the hands of the pupil it is somewhat difficult to offer a line of subject-matter differing in any considerable degree from that presented in the text. One may admit that American text-books are on the whole skilfully made and yet say that many texts found in our schools fail grievously of being in accord with our best aims and ideals in education.

**Text-books with unsuitable material.**—For example, not a few of the texts in arithmetic still feature relatively obsolete and useless subject-matter at the expense of practical drills and concrete problems related to the child's school and home activities. Many of our spelling books yet offer

from ten to fifteen thousand words for the child to master, whereas his writing vocabulary usually includes only about two to four thousand words. Many text-books in history feature political and military achievements far beyond social and industrial progress. Widely used texts in the natural sciences frequently emphasize theoretical problems rather than the concrete problems daily met in the life of the average person. Many of the popular language books still stress formal grammar and linguistic puzzles instead of practise in the use of oral and written speech.

This problem is to be met in two different ways. First, by the selection of texts, which is a matter not for the teacher alone but also for school superintendents and boards. It should be a part of our training in the field of education to know text-books and their structure so thoroughly that we can with certainty judge their adaptability to the use desired of them. Then we shall not find ourselves at the mercy of unscrupulous agents of book houses whose business it is to introduce their particular text against all competitors, or to hold it in use when it should be displaced.

**Selecting material through stress and neglect.**—But even admitting the limitations placed on teachers by the necessity of using certain texts, there is still a wide latitude possible to every teacher. This is to be attained through the *stress* or *neglect* which can be applied to the material found within the text, and through *supplementing* it by outside material. It is true that some schools require of teachers that they shall cover a certain number of pages in a given text, page by page, within a term and fit children to pass an examination on this material. Where such rules are iron-clad unhappy indeed is the teacher who has ideals of his own. Every teacher who is qualified to handle a room should be allowed reasonable latitude in the selection of

material, and then held responsible for results in knowledge and training rather than for the covering of so many pages of a given text.

Where this latitude is allowed, a teacher may change the matter of a course vastly by ignoring unfruitful material found in the text and supplementing it with material now easily available from a hundred sources for practically every line of instruction found in our curriculum. It is evident therefore that two different teachers using the same text can still teach widely divergent material by making use of this power of selection and rejection. But in order to use such power wisely the teacher's aim must be clear, his knowledge of the field must be broad and accurate, and his concept of the purpose sought in the life of the child through his instruction must be so definite as to admit of no obscurity or mistake.

Summarizing our discussion, we find that there is a new interest arising in the question of the best subject-matter for our schools. The doctrine of formal discipline is losing its hold. New material is asserting its claims. The curriculum is undergoing far-reaching changes. Traditional subjects are having to fight their place. Obsolete and useless matter is being swept away.

Two principles must guide in working out the new curriculum: *First*, the material must be consciously and explicitly selected to meet the aim we set up for modern education. Nothing is to be admitted for its traditional value or because it is good form to study it. All material given our children to learn must be able to show a direct and concrete relation to present-day needs and demands. *Second*, the subject-matter of the curriculum must be adapted to the age, ability and interests of the pupils. It must fit their minds and fit their lives.

The readjustment of material to meet these demands sets a problem for text-book makers in furnishing texts with the right material; for school authorities in selecting suitable text-books; and for teachers in selecting the best material through the use of emphasis or neglect within available texts and courses of study. *The question of what we put into the curriculum is all important.*

### QUESTIONS AND PROBLEMS

1. Consider the material found in the older type of text-book on arithmetic or grammar. How much of this matter do you estimate depends for its value on the "discipline" it may afford? Judge the material you are now teaching by the same test. What proportion of it has direct bearing on the real conduct and experience of your pupils?

2. Just what material of that you are now teaching do you think should be left out, and better material substituted? Can you, by "stress and neglect," accomplish this in part? Are you teaching any texts that you think should be changed for texts presenting more vital material?

3. Have you any classes or any pupils who are studying material that is beyond their age or grasp? If so, can you judge whether the material is primarily at fault, or something in the ability or preparation of the pupils? In either case, what should be done about it?

4. What have you found to be the effect on the attitude and interest of the child to give him material too far beyond his grasp? Have you known children to quit school because of discouragement from such cause? Have you known teachers who prided themselves on the proportion of their pupils they "failed"? What is your judgment on the question?

5. A certain boy in a Chicago school was made over from a laggard to a leader in drawing and arithmetic by being told that he might begin to make in the manual-training shop a coveted piece of furniture when he had sufficiently mastered the computation and drawing required in the construction. Can you apply the psychological principle that "motivated" his study to subjects you are teaching, such as language, agriculture, arithmetic, etc.?

## CHAPTER VIII

### THE ORGANIZATION OF SUBJECT-MATTER

**A**FTER the selection of material come its organization and presentation. Thus, to recapitulate, the cycle of teaching method is completed—first the *aim* of the whole educational process, next the proper *subject-matter* for the attainment of the aim, then the best *organization* of the subject-matter chosen, and finally the *presentation*, or teaching, of this material in the recitation. The present chapter will consider the principles that underlie the organization of material for instruction.

**The place of organization in method.**—By organization is meant the *ordering and arranging of subject-matter* for study (by the pupil) and for presentation (by the teacher). The problem of the right organization of material is hardly second in importance to that of the wise selection of the material itself. For even the richest and most fruitful subject-matter can be rendered all but useless by faulty organization. Indeed so faulty is much of the organization of the material of our courses of study and text-books that it requires very radical reorganization quite as much as the content needs revision.

**Two types of organization.**—Subject-matter may be organized from two fundamentally different points of view—the *logical* and the *psychological*. We shall next proceed to an examination of these two points of view.

### *Logical Organization of Material*

The most fundamental difference between the logical and the psychological organization of subject-matter grows out of the standpoint or purpose from which the organization proceeds. Logical organization definitely and professedly has the *subject-matter* in mind; psychological organization just as definitely has the *learner* in mind. The logical organization of subject-matter arranges its material in divisions, sections, chapters, paragraphs and the like wholly in accordance with the logical demands of matter so organized. There is no thought of arranging the material in the easiest and most natural order for the purpose of its being grasped by the immature mind. The exigencies of the material so predominate that the interests, aptitudes and methods of the learner are not taken into account.

**Logical organization considers only the material.**—The logical arrangement of material is the arrangement of the adult, the scholar, the expert, the master in his field of knowledge. This arrangement fits the mind which has covered and assimilated all the material and has it firmly in its grasp, wholly summed up and completed. Such a mind is not of course concerned with the problem of learning the material; the learning has, for this mind, already been accomplished. The problem is simply that of taking so much finished matter and fitting it part to part, section to section, relation to relation, and system to system, making sure all the time that the demands of logic are fully met in the organization effected.

The logical arrangement of subject-matter is essentially *deductive*. It reverses the mind's genetic mode of procedure and begins with the most general, complete and

abstract. It offers first the rules, general principles and definitions as dogmatic statements. They are so many finished bits of truths to be accepted and learned. The logical system then proceeds to apply these generalizations to particular cases or individual instances. Logical organization encourages the acceptance of authority rather than inductively leading to a mastery of facts through investigation on the part of the learner. It offers information ready-made instead of leading the way to discovery. It forces the child into the methods and systems of thought of the finished scholar, thereby doing violence to the order of nature.

**Older texts organized on logical plan.**—All the earlier courses of study and school texts were organized on the logical plan. This was not strange at a time when the child was still looked on as a "pocket edition" of a man, and child psychology not thought of as in any essential way being different from the psychology of adults. And the method of organization thus started persisted with certain modifications until the advent of child study and genetic psychology, some twenty years ago. Since that time the logical method has been gradually giving way, until we have to-day many texts written from the psychological (i. e., the learner's) view-point.

So firm a hold has the logical concept secured on educational thought, however, that many publishers yet think it good business to advertise their elementary texts as "logical in arrangement." Probably more than half the texts now used in the elementary school are either wholly logical in the organization of their material, or else the organization is so poor a compromise between the logical and the psychological as not to be of the highest usefulness.

**Logical organization in physiology texts.**—A few concrete illustrations will render more clear what is meant by the logical arrangement of texts. A certain elementary

physiology, which has had wide use in the schools, has for its first lesson "Bones in General." The lesson opens with a definition of the skeleton. Then follow such topics as *number of bones*, and so on, with two figures of the human skeleton from which the names and locations of the bones are to be learned. Since bones are the "framework" of the body it is assumed that they must also be the foundation of the child's study of physiology, regardless of the fact that one never sees his bones and has very little to do with them! A more recent and altogether better text opens with the question of *why one gets hungry, why food is needed, when and what to eat, how to secure pure water and milk, etc.* The first text organizes what is known about the anatomy of the human body into a perfectly logical array of facts; the second considers what is the child's most natural approach to the subject of nutrition and growth, and begins at that point. The first presents a logical organization; the second, a psychological.

Another "logical" elementary physiology begins with *cells, fibers, organs, tissues, chemical elements*. Nearly all these logically arranged texts on elementary physiology introduce the children to a study of their bodies by a frontispiece or first picture of a *skeleton*!

**Other illustrations of logical organization.**—The geography of the old type, built on the logical plan, started with a definition of the science of geography, introduced the child to the world as a sphere floating in space, came next to "grand divisions," then to continents, then to countries, and so on perchance finally down to the home place of the child himself. The psychological order, reversing this method of organization, would begin with the home place and work out to the more remote.

The older types of language and grammar texts, organized on a severely logical basis, started the child on the

study of his mother tongue through parsing, declensions, analysis and diagramming sentences. The child's natural tendency to the *use* of speech, and his facility in securing correct language forms and good diction through imitation of worthy models were entirely neglected. Indeed a number of widely used language texts of the present day begin with definitions of language, of the sentence, of parts of speech or other such concepts wholly foreign and irrelevant to the child at this stage of his study. Others introduce the child almost at once to the analysis of sentences, the mysteries of various kinds of complements, and the vague relations of different types of modifiers.

So we might go on with the other branches as well. Practically all the subjects at one time or another had their text-books written from the logical point of view. Even so new a branch as agriculture has a number of its texts displaying on their early pages chemical formulas relating to soil analysis, food elements, the chemical composition of plants, etc. This plan of organization was adopted not because the child knows chemistry at this stage or needs it in beginning the study of agriculture, but because the writer knew chemistry and wrote the text from his own point of view instead of the child's.

**Not material but organization at fault.**—It is not to be understood that in condemning the logical type of text we are also condemning all the material or topics referred to in our illustrations. We are rather dealing here with the order, or arrangement of material and hence the time or stage when certain matter shall be presented. For example the student of physiology must finally come to know about cells, fibers, tissues and chemical elements. But he should not begin with them; they belong to the high school. He needs to know about the earth as a sphere floating in space, about the inclination of its axis and its effect on seasons,

about continental divisions, etc. But these are not the best starting points for geography. He needs to know parsing, declensions, analysis of sentences, and parts of speech. But such things, instead of making a favorable start for the study of language, should come in at a later stage.

### *Psychological Organization of Subject-Matter*

Summing up the criticisms of the preceding section, the organization of subject-matter should be primarily *psychological* rather than *logical*. This is but to say that the mind of the learner and not the logical relations of matter should dictate the order and arrangement. The mind's natural modes of working, and the laws of its genetic development instead of the relations involved in certain fields of knowledge should govern in the planning of courses of study and in the organizing of teaching material.

**Why use the psychological organization.**—This position holds true because of the obvious psychological fact that the child's mind works best in accordance with its own inner laws of activity. None can doubt that any mind is less effective and its development hampered if forced out of its natural processes. When we compel the mental activities of a child to adapt themselves to the artificial arrangement demanded by a rigidly logical organization of material, we have committed a grave psychological blunder. We have caused a waste of time, forced the sacrifice of interest and compelled a reduction of efficiency.

Generalizing the principles just stated, the point at which the course of study and each subject in it should begin is as nearly as possible at the point then reached in the child's life, interests and capacities. To secure successful instruction we must establish what DuBois calls a "point of contact" in our instruction. We must make use of the child's

readiness, curiosity and enthusiasm for investigation and mastery of whatever lies close to his own activities. We must build upon the foundation of knowledge already attained, and leave no gap between the actual life of real affairs, in which the child is an active participant, and what we undertake to teach him in the school room.

**Relation of organization to attitude and motive.**—This point of view if successfully carried out in our teaching will serve to stimulate and give motive force to education in a way impossible under the logical organization of instruction. Every teacher of experience has been impressed with the change in attitude, interest and effort when the subject-matter of a recitation has suddenly changed from abstract theoretical points widely separated from the experience of the children, and attached itself to matters of immediate and vital interest related to the genuine experiences of home or school.

Subject-matter appropriated in accordance with psychological requirements also has a degree of unity and a vital meaning, impossible under the logical system. This is because the mind can not easily appropriate nor can it fruitfully use matter widely divorced from the real motives and thought processes constantly in use. This distant material, however well organized may be the logical system from which it comes, does not form an organic and logical system of knowledge in the mind of the child. On the contrary it is broken, scrappy, unrelated, and because of this fact not effective either as a basis for further learning or for use in directing present activities. The mistake is often made of assuming that because certain material is arranged in logical form it is therefore logical (i. e., a related system) to the child. Only when the child has been *able to grasp the relationships* does the matter take on a logical quality to him.

**Practical application of psychological organization.—**

The principle involved in the psychological arrangement of subject-matter has application (1) to the arrangement or sequence of subjects in the curriculum; (2) to the organization of the material within text-books, outlines and courses of study for each branch; and (3) to the mode of approach to each section of material or each day's lesson.

**The order of subjects in the curriculum.—**The arrangement or order of subjects in the curriculum itself should be psychological instead of logical. This would require that the first subjects met by the child as he enters school should be those closest to his actual interests, needs and activities. In accordance with this requirement the earliest studies in the primary school should not be the abstract symbols involved in reading and number. The introductory branches of instruction should be founded in the social activities carried over from the home life to the school. The child's interest in work and play and in the things round about him suggests the fundamental material for the first school grades. In violation of this principle, however, it is still common in many schools to find that the greater part of the first two years of school are spent on learning the symbols of reading, numbers and language. The concrete activities and the great world of nature are relatively ignored in favor of the abstract and symbolic forms of knowledge.

The first year in the high school affords a similar illustration of the violation of the psychological principle in arranging the course of study. In the typical high school the child has no branch of study carrying over from the elementary school to serve as a bridge, safely to conduct him over into his new realm of experience. On the other hand he is required to begin the study of algebra, the most abstract of mathematical subjects, the rigid grammar of Latin and the composition phase of the study of the mother

tongue. Thus from one-half to three-fourths of his work is of such nature that it is very completely divorced from any previous knowledge or from any present interests and activities outside of the classes concerned. It lacks "point of contact."

Some attempt has been made to remedy this unfavorable condition by introducing a combined course in mathematics involving concrete phases of geometry and arithmetic along with the algebraic symbols. Relief has also been sought by modifying the first year of the study of Latin so as to relate it more closely to English speech, and also afford more opportunity for the reading of Latin, with a corresponding reduction in the amount of technical grammar required. The first year of English in the high school is being changed to make it include a larger measure of literature and a smaller amount of general composition. The composition work itself has also been modified in the direction of making it correlate more directly with the other school subjects and with the interests of the pupils. In the same general direction an experiment is being made with a course in general science. The aim is to develop the pupil's interest and knowledge with reference to those aspects of the physical world which lie closest to him, rather than to introduce him at once to the more rigid and broader generalizations of science.

**The order of material in each subject.**—The effects of the psychological principle applied to the subject-matter of the different branches have already been suggested in the preceding section on the logical organization of material. It will only be necessary here to offer a few illustrations of its application to the subjects of the curriculum.

This principle applied to the subject of geography will mean that the child shall begin, not with the larger land

forms, with mathematical questions concerning inclination of the earth's axis, or with general facts concerning the earth as a sphere; but he will start with the homestead, the school grounds, the neighborhood, the rivers, valleys and hills near it, and with the products and peoples connected with the life and interests of the learner. From this beginning, his knowledge and interests will be led on outward to include finally the world and its people.

In similar manner the child's mastery of numbers will not commence with definitions of notation and numeration, nor with abstract number combinations, nor with artificial problems dealing with fanciful conditions foreign to his experience. On the other hand it will begin with the actual need of counting, computing and finding the numerical relations among objects met in every-day life and activity.

**Securing immediate points of contact.**—Language study will have its starting point not in rules and principles of composition, nor in abstract grammatical relations, but in real vital expression, in oral or written speech which deals with the interests, needs and ideas of the child himself. The study of physiology will not start with matters of anatomy, physiological chemistry, nor with any other distant, concept having no immediate relation to the child's life; it will begin with questions of food, growth, exercise, breathing and like matters concerning the pupil's present life and physical welfare.

The study of agriculture will begin with the farm crops, gardens and animals found at the homes of the pupils or in the immediate vicinity. From these concrete beginnings based on real affairs and genuine interests it will extend until it has reached the broader facts and principles on which the science depends. In like manner the study of manual training, instead of requiring long practise on va-

rious exercises in making joints which are never used to join the parts of any real article, will start with the making of some simple article which itself contains the joints in question, thus adding motive and reality to the work.

Applied to spelling, the psychological principle will demand that the child be taught to spell not a haphazard, miscellaneous list of words having no direct relation to his need for them, but on the other hand his spelling will deal with the words which are then and there being employed by the pupil in his daily writing of lessons, letters and whatever material is used in his written work.

**The organization of each day's lesson.**—In like manner should the psychological principle of organization be extended to the preparation of any section of material, or any day's lesson for instruction. The great question is not how this particular bit of material will best fit into some outline or classification which will look well in a note-book or upon a blackboard, but how it can best be arranged so that it can be grasped, assimilated and applied by the learners. The teacher is to take his stand with the pupil, see things through his eyes, and approach them through his mental processes when he constructs his lesson plans. He will make use of the principle of *apperception*, starting with what the child already knows and is interested in. From this vantage point he will proceed on out into the related new and unknown.

### *Meeting Point of the Logical and the Psychological*

It must not be supposed from the preceding discussion that the logical and the psychological order are always and irrevocably opposed. On the contrary they tend finally to become identical. This is because the developing mind as it masters its world of knowledge and learns the technique

of thinking naturally organizes and classifies its knowledge in a logical system.

**Growth toward the logical.**—It is not to be understood that there is any virtue in presenting to the child an illogical or haphazard system of facts to be learned. On the contrary, all matter taught should be as logically organized as the child's development and grasp will at that stage permit him to utilize. It is to be understood, however, that the logical organization is constantly to proceed in accordance with the child's broadening grasp and experience, and not be controlled by any considerations inhering in the facts themselves.

Restating the position, we may say that the child's psychological order constantly tends toward the logical. The organization of the subject-matter of his instruction should keep step in the same direction and assist in the process, but should never outstrip it and become an end in itself.

Summing up our discussion, we have seen that it is as important that material shall be well organized as that it shall be wisely selected. We are at present in the stage of passing over from the logical to the psychological organization of the curriculum. Logical organization ignores the genetic principle of education and is governed by the demands of the material. The psychological gradually moves in the direction of the logical, and the two finally tend to become one for the trained thinker. Material organized to fit the demands of the child's mind is more easily learned, stimulates greater interest and response, and fits more directly into the general body of the learner's experience.

The principles of psychological organization apply to the arrangement of subjects in the course of study, to the order and treatment of topics in a text-book, and to the teacher's plan for each day's study and recitations.

## QUESTIONS AND PROBLEMS

1. Make an examination of the texts you teach to determine the type of their organization. Do they begin with the *general* and abstract, with rules, definitions and principles, with matter that is far removed from the experience and activities of the child—or the opposite?

2. In preparing your lesson plans do you consciously and definitely plan to secure a *natural* and simple mode of approach for the child? That is, do you have the *child* or the *material* in mind when you organize your material?

3. Are you clear as to what is meant by the "inductive method"? Can you apply it to geography, civics, language, nature study, etc., as well as to arithmetic? Does the child naturally approach *all* his learning inductively?

4. What in your judgment are the qualities that make a good text-book? A poor text-book? When you go to inspect a new text-book what do you first look for? Do you feel that your judgment is well enough grounded so that you would be justified in making a selection of texts for your school? Ought a teacher to train to this ability?

5. A mechanically organized lesson is often easier to *present* than a lesson organized on psychological lines. Why is this? Which is the harder factor in teaching, the *material* or the *child*?

## CHAPTER IX

### THE TECHNIQUE OF INSTRUCTION

WITH one's aim clear, and the material selected and organized, he is then ready for presentation of this material in the recitation. The principles underlying the presentation of the subject-matter in the recitation are so broad and varied that they are impossible of full treatment in the brief space of a single chapter. Furthermore, instruction must constantly be modified in its details and methods to suit both the subject and the age and degree of advancement of the pupils; for every subject has its own particular problems and every class its own special needs and peculiarities. All that can be accomplished, therefore, in the brief type of treatment we have in mind is to suggest certain principles which underlie all good instruction and will in general apply to all subjects.

#### *Personal Factors Depending on the Teacher*

Instruction is the most peculiarly personal of all of the teacher's functions. When the teacher presents subject-matter to the class the pupils think, understand and master, not the subject-matter alone as such, but this material as it is shaped and colored by the teacher's point of view, and saturated with the teacher's personality. Indeed, it is the personality of the teacher that gives much of the subject-matter its very spirit and life. To be a good instructor, therefore, the teacher must first of all possess that intangible something that is called *personality*.

**Personality a factor in instruction.**—Because of its marvelous complexity and its variable qualities in different individuals personality can not be strictly defined; yet it is in no small degree subject to analysis, and *is thoroughly cultivatable*. Personality develops from day to day in the ordinary processes of our lives.

*Physical aspects of personality.* First of all, personality has its physical aspect. The person whose physical poise, bearing and dignity are impressive has a great advantage over one of opposite qualities when he confronts his class. The bowed form and stooping shoulders, the slouching and shuffling gait, the slack and awkward posture, or the careless and ill-kept attire all go to subtract very definitely from effective teaching power.

*The intellectual quality in personality.* Personality is also an intellectual quality. None have failed to notice the difference between a magnetic and stimulating type of mentality and the opposite. All have felt the arousing, inspiring and enlivening effects that radiate from the freshness of the vitally alert mind. On the other hand none have failed to note the deadening and depressing intellectual influence that comes from association with a mind that lacks the vital spark.

Such differences in the intellectual personality come not alone from differences in native ability, but probably even more from the quality of interests and the general trend of the thought life. The live and stimulating mind is the mind that is awake to a broad range of human interests which serve to fire the imagination, stir the enthusiasm and make one more generally and completely alive. This type of mind occupies itself with the real and pressing problems of life, concerned with them both for its own welfare and for that of its neighbors.

*The quality of human sympathy.* Personality also includes the quality of human sympathy. The person whose mental processes consist mainly of logical trains of thought, who possesses insight and high-grade intellectual ability, but who is lacking in sympathy and the ability to enter into other people's interests and experiences, lacks one of the most necessary qualities of the teacher. This is especially true for the teacher of children, whose mental life unfolds freely and naturally only in an atmosphere of kindness, sympathy and good will. Many children are cowed, disconcerted and put at their worst in the presence of an unsympathetic personality that towers up and over them. The remedy for the cold personality of this type is of course to cultivate the sympathetic side of the nature.

**The teacher's educational equipment.**—After the fundamental question of personality comes next that of the teacher's grounding educationally. This includes not alone a thorough mastery of the subjects he teaches, but also a broad background of knowledge, interests and appreciations covering a wide range of affairs. There is no more certain fact bearing on instruction than that no teacher can successfully teach all he knows. One who lacks in either breadth or depth of preparation is obliged to teach without perspective, and is unable to give the vital touch of meaning and application in his teaching which can come only from wide knowledge, outlook and experience.

The teacher must also possess deep devotion to his work. Its value and dignity must impress him. His ambition and enthusiasm must be gripped and compelled by the opportunities of the class room. Our human nature is so constituted that our powers are exerted to the full only under the stimulus of some worthy cause or necessity that demands the best there is in us. One, therefore, who looks on

his work as something insignificant or unimportant has by this very fact limited to a very appreciable degree the amount of ability he can put into his instruction.

**Need for clear thinking.**—The teacher must be a clear thinker, whose mind is capable of carrying a considerable range of points at one time. This is to say that in order to make a good presentation one must have in mind the whole plan of the lesson, and must know at any given moment in the recitation just what stage has been reached in these points and what points remain in order to round out and perfect the field of information. Questions, explanations and supplementary information must always be based on the answers, discussions and facts that have already been brought out in the lesson.

The teacher must be able to note at a glance any flagging interest, doubtful comprehension, troubling question, or other indications of what is passing in the minds and experience of his class. Mischief or indifference which pass unobserved in the class room are evidence that the teacher either has not mastered the technique of instruction, or else that his own mind possesses such limitations that he is unable to keep close track of the human element in the class while at the same time manipulating the subject-matter of instruction.

### *The Technique of Instruction*

Probably all teachers could greatly increase their effectiveness in instruction by diligent study of the technique of their work. Certainly many teachers fail of rendering high service from lack of good technique.

Good instruction requires the use of certain psychological factors. First of all it should be recognized that no excellence of preparation on the part of the teacher, no perfec-

tion of organization of material, or no factor of any other kind will accomplish suitable results if *interest and attention* are lacking on the part of the class. This simple psychological fact, which is so obvious as to be a truism, is nevertheless not made the foundation of instruction in many a class room. And no matter how excellent the teacher or how successful his work in general, there is no one who has not had the experience of moments, or even whole class periods, when interest seemed at ebb and when attention and alertness were hard to claim.

**Commanding concentration.**—The mind is so organized that it is wholly impossible to accomplish any worthy results without that concentration of its energy which we call a state of attention. For a teacher to continue his instruction with any considerable portion of his class inattentive, uninterested or manifesting only a polite indifference is worse than useless. Whatever may be the cause of this condition the condition itself must be relieved if it is to be worth while to continue the instruction. Not only do such conditions defeat the immediate purpose of the recitation, but they also encourage and cultivate one of the worst of mental habits, namely, that of inattention and indifference.

**The effects of attitude.**—Not less necessary than interest is the spirit of cooperation and good will. The moods, and indeed the whole emotional side of the mind, are so closely connected with the intellectual processes that it is impossible for thought to be its best with adverse emotional currents working counter to it. A spirit of hostility, bitterness or dislike toward the teacher is entirely certain to cripple the effects of his instruction.

This does not mean that the teacher must therefore be easy, slack or haphazard in his work in order not to arouse antagonism. First of all, such standards on the part of the teacher will lose him the respect of the class, and when

respect goes, cooperation and responsiveness are not long in following. Let the teacher be strong and consistent, let him maintain high standards of excellence in preparation and in the recitation, but let him not work with his pupils in the spirit of a critic, constantly giving the impression that he is seeking to discover flaws and to trap the unwary. Let him avoid giving the impression that he is a hunter after faults and weaknesses, and that children are his legitimate prey. On the other hand let him constantly manifest, even when most stern and severe in his requirements, the spirit of helpfulness, comradeship and good will that should prevail among those who are working together for a common end.

**Moral effects of cooperation.**—Not only will this attitude in instruction tend to create an atmosphere favorable to the growth and development of young minds, but it will also serve to remove the temptation to insincerity and evasion on the part of many children. In not a few children is the habit developed of trying to cover up weaknesses, failures or lack of mastery. They feel that they are out of sympathy with the teacher, and that it is safer not to allow their failures to become known. From this attitude to the recognized art of “bluffing” is but a step, and a most natural one. Under the best conditions of instruction the child will feel that he not only can, but should, come to the teacher with any troublesome problem or unmastered section of his lesson, seeking such sympathy, advice, helpfulness or instruction as may be required.

**Good teaching chiefly inductive.**—In the presentation of material as well as in its organization the psychological order is to be followed. This is equivalent to saying that the *inductive* instead of the *deductive* method will in general characterize good elementary instruction. The child will

learn by investigation and experiment that the area of a triangle is found by multiplying its base by half its altitude, and *the rule will follow instead of preceding* the grasping of this fact. He will come to understand the mystery of the fertilization of the plant by watching the bees with pollen-laden feet, or by examining the drifting pollen from corn-field or orchard; out of these individual observations and experiences, guided by the teacher, the wider generalizations will come. Inductive teaching secures the double advantage of following the child's natural method of learning, and of training in observation and investigation by direct contact with things.

The inductive process requires that we begin with concrete cases and individual instances. But we are not to stop with them; they are to be followed on through to general conclusions and to applications. Inductive teaching does not start a new topic with rules or definitions, which are always generalizations. On the other hand, after leading the child, through the individual examples and concrete cases, to understand the general principles involved we should, except in the lowest grades, bring him to form his own rules and definitions. Once these are understood in such a way the learner can then proceed to use them deductively by applying them to still other instances in this particular field. Having formed his own rules and definitions he feels the strength and certainty that come from mastery; furthermore, he so thoroughly understands the principle, rule or definition with which he works that it is not, as so many rules and definitions are, mere verbal lumber in his mind. On the contrary, they become an organizing, effective, working instrument leading to independence and originality of thought.

**Building on the known.**—The principle of apperception

must also be constantly employed in our instruction. This is only to say that the new must constantly be built on the foundation of related old, so that the matter learned shall form a continuous and organic whole in the mind of the child.

One of the greatest of class-room faults is the teaching of new material without giving it a foundation and point of attachment with related matter already in the mind. This false system of teaching results in isolated bits of information, curious but meaningless sets of facts, and an endless number of unrelated details which never really function in the thought, and hence play no part in the true end of education. The aim of our instruction is not so much information or knowledge as such, but a series of related truths which play a real part in guiding action and determining conduct.

### *Methods Employed in Presentation*

The skilful teacher must be able to use a variety of methods in his instruction. No one plan of presentation can be successfully used day after day in any class room. The very monotony and lack of variety will tend to cripple interest and to lessen attention. There are, however, certain methods of instruction which are better adapted to some stages of development and to some subjects than to others.

**The question-and-answer method.**—What we commonly call in the school-room parlance the *question-and-answer method* is the foundation of all elementary teaching. This is the famous Socratic method by which the immortal Greek teacher led his pupils inductively, step by step, into new realms of knowledge without himself telling them the facts or principles involved. By such method he not only secured to them the desired knowledge, but, perhaps of even

more value, he trained them in a method and habit of thought that led them to become independent thinkers and investigators in their own right.

The question-and-answer method can be fruitfully used in the development of all new topics where the new is to be connected with the old in the mind of the learner. Especially is this method adapted to those who are still in the stage where they need to be trained in methods of study and thinking. At its best the question-and-answer process of instruction is a half formal conversation between teacher and class. The teacher directs the conversation, perhaps even dominates it, but never monopolizes it. Each succeeding question grows out of the preceding question and the answer thereto in the mastery and development of the topic.

**The art of good questioning.**—The teacher's questions must be clear and definite in meaning so that they may be understood. The indefinite question leads to guessing on the part of the pupil and can not have other than an indefinite answer. In order to be clear the questions must be in simple terms and be brief and concise, that they may be easily grasped and held in the mind while the answer is being formulated.

In skilful questioning the teacher is not bound to a textbook, but is able while following the outline of the assigned lesson to broaden the topic and enrich it from his greater knowledge and mastery. The teacher's manner and bearing are those of the interested conversationalist, and never sink to the dull level of uninteresting quizzing, or the perfunctory carrying on of a necessary but disagreeable duty. The bright and alert eye, the interested and changing expression, and every other physical attribute that marks a good conversationalist are demanded in the recitation of this type. The children's answers should be received with responsiveness and courtesy, even when they must be criticized or

corrected. Sarcasm, superciliousness of bearing, or any other quality that will serve to intimidate children have no place in the recitation, any more than they have in social conversation in well-bred society.

**The topical method.**—Supplementing the question-and-answer method of instruction the *topical method* is found of great use. This method requires somewhat more of mastery and independence of thought on the part of the pupil than the question-and-answer method. When giving a full topical recitation the speaker must depend on his own organization of thought and on his own powers of expression. The topical method affords opportunity, therefore, to teach children to organize and relate the matter which they desire to express. It gives them practise in continuous and systematic thinking, thus developing the power to stay longer on the wing mentally, than if trained under the question-and-answer method alone.

The topical method, if skilfully handled, also gives excellent opportunity to add a social incentive in some degree lacking in other methods. This comes from the fact that topics may be assigned for certain pupils to bring before the class on subjects which the remainder of the class have not studied. The one reciting then has the advantage of addressing a real audience of listeners whom he may tell something that they themselves do not know. There is no great incentive in reciting matter to a group of classmates all of whom know what is being told as thoroughly as the speaker.

Supplementing the topical method should be a series of questions and answers to broaden, elaborate or apply the truth brought out in the discussion of the topic. This suggests that the two methods may well be used together.

**The supplemental method.**—The method commonly called the *lecture method* would, at least for elementary

teaching, better be called the *supplemental method*. In all good instruction the teacher is constantly broadening the point of view presented in the text by material brought in from his own wider knowledge. This material may sometimes be expressed in the form of a brief sentence only, again it may require a number of sentences of explanation or application, or it may demand the fuller discussion which conceivably might extend over the greater part of a recitation period.

Constant tact and judgment on the part of the instructor are required to judge just when, how and in what degree to add material of his own to the topic under discussion. Every well prepared teacher has experienced the temptation to plunge into a discussion of his own rather than to follow out the less inspiring set of details of the assigned lesson. This temptation must be rigidly put aside, however, and no material brought into the presentation which does not specifically belong there for some definite and immediate purpose. Mere talk, even if it is interesting, has no place in the recitation. On the other hand, the teacher who has nothing to contribute out of his own knowledge and experience is ill prepared for the work of instruction.

It is in these supplemental remarks, occasional applications, and broader discussions or informal lectures that the teacher has his best opportunity for stimulating, inspiring and energizing the ambitions and intellectual ideals of his pupils. It is at such points that he is most the teacher and that his influence will be most fruitful. The teacher who fails to take advantage of this opportunity is the mere mechanical tester or examiner, who counts his duty done and his function fulfilled when he has assured himself that his pupils have mastered the subject-matter of the text. He teaches but a text-book when he should teach the broad subject to which the text-book relates.

**The laboratory method.**—Still another important method of instruction is what we have come to call the *laboratory method*. The essence of this method is that it requires the pupils themselves to *do* something, to carry out some experiment, to make some investigation, or in some other way learn through investigation and action. The laboratory method is used not only in the older natural sciences, such as chemistry, physics and biology, but also in such of the newer subjects as manual training and domestic science. It can be much more fully extended into other lines than has commonly been done.

For example, many forms of literature can best be taught by dramatizing the production. This is as thoroughly a laboratory method as that of mixing chemicals to produce a certain reaction in the chemical laboratory. The lessons in civics are more effective when they are put immediately into practise in the school, community or city. Boys and girls who take an active part in the beautifying and keeping clean of streets and alleys and back yards of their neighborhood are having laboratory practise in civics. Those who go to the polling places on election day and study the process of voting are having laboratory practise in citizenship. And so on with other subjects.

**Good presentation combines all methods.**—Good instruction will require that the teacher know and be able skilfully to use all of these different methods. Not only are they required for variety, but as has been shown, each has its own peculiar advantages and is required as a supplement for the others. The teacher who settles down to any one method to the exclusion of the others quickly sinks into a rut and finds his classes becoming dull, restless and unresponsive. And such an attitude on the part of the pupils is but a symptom of mental inertia and the absence of the interest and enthusiasm necessary to learning.

*Tests of a Good Recitation*

Are there any easily applied and certain tests of the success of our instruction? Are there any standardized measures by which we can judge our teaching efficiently in the recitation? Instruction is too complex a process and its various forms too inter-related to work out any uniform and standard series of tests which can be uniformly applied. Of certain facts we may, however, be sure. First of all, instruction presupposes and requires *response*.

**The test of complete response.**—Teaching and learning are but the obverse and reverse sides of the same situation, hence no instruction can be successful and no teaching reach a high degree of skill which does not secure that alertness and response from pupils which alone is an evidence of their grasping and assimilating the matter taught. One of the first tests of a good recitation, therefore, is whether all are “in the game.”

It is easy to secure the attention and participation of the brightest members of the class. It is a simple thing to carry the alert ones through on a train of thought without losing their interest. But the average class of fair size is not made up altogether of bright and alert minds. It has in fact but the smaller proportion of this type. The greater number range within the average or mediocre type, while a small proportion rank as positively weak and ineffective mentally. Skilful instruction does not, therefore, set its standard at winning the highest twenty-five per cent. of the class alone. It must aim at securing response from the mediocre, and better still at securing response from all.

However we may divide the proportions among these three groups we shall find the groups all represented, and will, if we are willing to be very rigid in our requirements,

estimate our skill by our ability to command the *full powers of the entire group*. Yet we must not aim our instruction chiefly at the incompetent or mediocre to the neglect of the stronger and brighter pupils. To hold them back for their less gifted companions is a worse mistake than to discriminate against the weak for the strong. The ideal is to give each his fair share and chance.

**The contagion of inattention.**—Inattention on the part of any members of the class is fatal to the best results from instruction, not alone to those who are inattentive, but in some degree to every member of the class group. A class at its best mentally consists of a number of mental units, each reenforcing and supporting with his own mental activity the thought, energy and effectiveness of the entire group.

Every inattentive pupil breaks the chain and hinders the flow of enthusiasm and effectiveness that comes from unified interest of a number of workers. It is as if each individual in the class were a separate cell in a battery series, the inattentive ones representing dead cells, which break the circuit. The teacher, therefore, owes it not only to the inattentive members of the class, but to the others as well, to stimulate the dead mentalities into action and to cure the lack of enthusiasm that breaks the chain of attention.

**The movement of the recitation.**—Effectiveness of instruction is also measured in no small degree by the *movement* of the thought and plan of lesson. Every one knows the drag that comes from the book, the play or the lecture that dallies by the way, has unnecessary breaks in its continuity or is in general slow in its action. The same principle applies in the recitation. Pauses that are occupied with thought or meditation are not, of course, wasted. Such moments may be the most valuable of any period of the lesson hour. It is rather the empty lapses which occur for no reason except the unreadiness or lack of preparation of

the teacher that are to be criticized. Every such deadening interval is a break in the thread of thought, which of necessity must be picked up again at the expense of energy, time and interest.

**Eliminating the distractions.**—Good instruction requires as one of its conditions freedom from unnecessary distractions which have a tendency to break in upon the train of thought. The standard of the recitation should be such that all mischief, whether playful or malicious, shall be set aside and have no place in the recitation. Pupils should be made to feel that the opportunities of the lesson hour are too important, the requirements too high, and the demands of courtesy and cooperation too insistent to permit misbehavior or lack of attention. The recitation hour is a business engagement between teacher and pupils and should be carried out in a business manner. This caution is undoubtedly superfluous for many class rooms. But that it has application to the conditions in many schools can not be doubted by those who have closely studied present-day class-room practise.

**Maintaining high standards.**—The best instruction is impossible without high standards in the recitation. This is but to say that careful and skilled instruction must be met and responded to by correspondingly strong mastery and appropriation on the part of the pupils. The administration of the recitation should be such that failures are not taken as a matter of course, or treated with a spirit of levity. The recitation hour is the very center and heart of the school work and a failure there means failure throughout the system. The attitude of the class and the instructor should be such that probable failures in recitation are looked forward to with some apprehension and remembered with regret if not humiliation.

Finally we may say that good instruction demands good *expression*. The teacher who is unable to use his mother

tongue clearly, readily and forcefully can hardly make a good instructor. Much of the more or less prevalent lack of clearness in instruction probably depends upon incomplete mastery of subject-matter or the habit of hazy and imperfect thinking. There can be no doubt, however, that simple inability in the use of clear speech is also responsible for no small proportion of the low-grade instruction. It is one thing to know a series of facts or field of knowledge, and quite another thing to be able to express facts and explanations so effectively that the untrained mind can grasp, unify and appropriate.

Good instruction will also require and train in the use of good English on the part of the pupils. Incorrect expression, incomplete statements, faulty pronunciation and awkward explanations will not be received. For not only is good speech worth the training required for its own sake but it also has a very direct relation to clear and effective thinking.

### *Danger Points in Instruction*

It is a well-known law in pedagogy that negatives are not often inspiring, and that to present an array of one's mistakes is not the best mode of helping him to avoid them. However, having stated certain of the positive elements involved in good instruction it may not be out of place to speak of a few of the danger points.

**Lack of definiteness.**—Probably no other defect of instruction causes more waste and loss of results than failure of *definiteness* in our teaching. He who lacks a consciously recognized and definite aim either for his subject or for any period of instruction within it is not likely to attain valuable results. Many teachers go into their recitations not only lacking a clear idea of what should be achieved,

but also devoid of any prearranged or conscious plan of action. They are completely at the mercy of the text-book, or if this happens not to supply an organized plan, they are at the mercy of circumstances and drift hither and thither upon detached and isolated matters, each unrelated to the other. The whole process therefore arrives at nothing.

The principle of definiteness is also often violated, as shown earlier in our discussion, by failure to carry the truths developed in the lesson through to the point where they apply to life conduct.

**Avoiding dead levels.**—A second danger point in instruction is the lack of perspective in teaching. It is possible to present all the aspects of a lesson on a dead level, and with an entire absence of emphasis on the important points. Minor details and incidental aspects of the subject receive with such teachers the same stress that is given to the more important points. Not only does this type of method fail to lodge in the minds of the learners the larger truths which deserve the permanent place in their body of knowledge, but there is also a failure to teach pupils through the use of stress and neglect of emphasis how themselves to recognize and make use of the more fruitful points of their lessons.

**The rut of routine.**—Teaching is not only a severe nervous strain, but the ever recurring recitation hours are likely to become monotonous and to take on a routine quality if the teacher is not thoroughly aware of this danger. If such a calamity happens it is evidenced by the teacher's lack of alertness and enthusiasm in the recitation. The instruction has no sparkle to it, and the entire recitation process lacks the swing that characterizes successful instruction and reciting. When this condition obtains, the pupils come to the class without anticipation or interest and they

leave it without regret. They have failed to enjoy their work and have thereby lost one of the greatest incentives to effort.

**Stopping short of mastery.**—Still another danger point is that of stopping short of sufficient mastery of important and fundamental matter. It can hardly be doubted that our entire school system is open to the criticism of too much partial learning. We let go by in our instruction too many but dimly grasped meanings. We pass over too many partially understood truths. There is too much of failure, as previously noted, to make automatic the simple associative learning, such as the symbols of speech, punctuation marks, number combinations, commonly required spellings, and all such material that depends not on ideational thought, but on the simplest form of associations. The remedy is of course obvious. We need more thoroughness in mastery, even if this should require a somewhat narrower range of material covered.

In our discussion we have taken the position that the final test of the teacher is his mastery of the technique of instruction. The foundation of his effectiveness lies in the quality of his personality, which is in a large degree cultivatable. The teacher needs to be a clear thinker and a ready speaker. Educational equipment is a prime essential not always met.

The command of attention and cooperation is the first test of good technique. The question-and-answer method, the topical method and the laboratory method all have their place and should be used to supplement one another. The art of questioning should be developed and inductive questions freely employed.

The tests of a good recitation include response; movement; complete participation; freedom from distractions;

serious thought and interest; freedom from trickery, bluffing and evasion. The standards should be high and then should be met. There are certain danger points to be avoided, such as the lack of definiteness, "dead levels," ruts of routine and incomplete mastery.

### QUESTIONS AND PROBLEMS

1. As you think back over the teachers that have meant most to you can you now tell what factors gave them their power? Did they have good personalities? Are you consciously seeking to improve your own personality?

2. Have you ever noticed whether you enjoy teaching a lesson over which you feel the power of full mastery? Do you enjoy or do as well in teaching a lesson you have not fully in your command? Have you such a mastery of your subjects that you can teach the *subject* instead of a certain text?

3. Do you have any difficulty in holding the full attention of your class? Are the pupils responsive? Are they in good spirit, and cordial toward you? Do they like the school work and enjoy the recitations? Do you?

4. Which of the methods described do you most use? Why? That is, have you considered them all and decided a certain one is best for your use? Or do you use them all? Do you supplement much in your recitations? Do you find any difficulty in a tendency to drift away from the lesson topics?

5. Have you any trouble with mischief in the recitation? With other forms of distraction? Do your recitations *move*, or have they a tendency to drag? What do you consider your weakest points in the recitation? Your strongest?

## Part Two: Method of the Common Branches

### CHAPTER X

#### READING AND LITERATURE

**R**EADING is the most important of school subjects. It is the key that unlocks the door to all other learning. In every land it is the dividing line between gross ignorance and intelligence. It opens the way into the treasure house of literature, and brings one into contact with the thoughts and deeds of the whole world, present and past. One of the greatest contributions the school can offer to the child is to make him a good reader.

#### *Aims—Results Sought*

We teach reading that the child may learn how to gather thought and feeling from the printed page. This means that he shall be able so to enter into the situations, incidents and actions described that the experiences are recreated in his own thought and feeling, and made real through imagination. Thought and feeling naturally lead to expression; then we have oral reading. But there can be no oral reading until the thought and feeling are grasped—up to this point there can be but the pronunciation of words. We teach oral reading, therefore, to train in the expression of thought and feeling as they are gleaned from printed material.

But the aims just stated deal chiefly with the *mechanics* of reading. And our purpose in teaching reading is but begun

when the mechanics are mastered. We are not only to teach the child *how*, but *what*—not only train him to read, but lead him some distance in his reading. After putting into his hands the tools, made up of the printed symbols, we are to guide his use of these tools in opening up the wonders and beauties of the field of literature. Having taught him to read, we must teach him to *read*.

More briefly stated, then, our aims will be the following:

1. To teach the *mechanics* of reading, leading to the power (1) to appropriate and (2) to express thought and feeling from printed material.

2. To train the *habit* of reading, thus opening the way to enjoyment, inspiration and knowledge from books—that is, to *make readers*.

**The knowledge required.**—The child usually comes to school ignorant of the whole set of symbols—letters, words, marks and sentences—which constitute the mechanics of printed speech. They look to him at least as strange as the following sentence in Yiddish looks to the English-speaking teacher:

אללע גערדוקטע רעדענסאַרעטן קוקען אויס אים אנפאנג צום קינד פרעמד

Yet these symbols must be learned, and the knowledge of them must become accurate and ready, so that each word or mark carries an immediate and certain meaning. This is a large undertaking and the teacher should lead the way with sympathy, understanding and helpfulness.

After the mechanics the *matter*. The child does not at the beginning know that there are interesting stories to be read, beautiful poems to be enjoyed, valuable information to be gleaned. He must be led into this knowledge through the reading of stories and poems and information. He must be brought to realize and prize his rich heritage in the world of books, magazines, papers. He must not be taught to read, and then left without knowing what to read or without

having formed the habit of reading. Through reading the child is able to enrich his experience. This power will emancipate him from the *immediate*, in time and place, and bring him into contact with the thought and life of other ages and climes. Through reading he ceases to be provincial, and takes his place as a member of the human family and a citizen of the world.

**Attitudes to be cultivated.**—One of the great aims in teaching reading is to lead children to *enjoy reading*. The person who loves good reading has a resource that will yield permanent satisfaction and enrich his life from youth to old age. Any teaching of reading which does not tend to broaden and strengthen the sheer enjoyment from reading has been of doubtful value, if not a positive detriment.

The training of *interests and tastes* is another great end in the teaching of reading and literature. There is so much of good to be chosen and so much of bad to be shunned that the child is in urgent need of guidance. He needs the kind of training that will make his interest crave and his taste demand the masterpiece of beautiful form and rich content rather than the cheap, sordid, unimaginative tales that flood the market. He needs to be saved from squandering his time and wasting his enthusiasms on the low or the commonplace. And he *can* be saved, for interest and taste grow by what they feed upon. The great thing is to fill the early time and interest so full of the worth-while in reading that the other shall find no place.

After personal contacts of teacher, friends and companions, literature affords the best opportunity for cultivating *worthy ideals and enthusiasms* in the child. Here the good, the beautiful, the heroic are all idealized and set forth in attractive form. Great and noble characters are made to live before the child and he comes to love them. Noble deeds are done and great service rendered, and the child

comes to admire and emulate. Beautiful diction is employed and beautiful rhythms and rhymes used, and the child learns to enjoy them. So standards develop, ideals take shape and character forms.

**Skills to be trained.**—The aim in teaching the mechanics of reading is to make them thoroughly *mechanical*. That is to say, the words, punctuation marks, sentence structure and all other elements involved in taking thought and feeling from the printed page must be made so automatic as to require no conscious effort or attention. No real enjoyment and no great efficiency in grasping thought can be expected until the automatic stage is reached. All who have studied a foreign language know how the half-mastered vocabulary and strange sentence structure experienced in the earlier stages hinder the satisfaction (or even meaning!) we should gather from the story we read. To the child beginning to read, his own tongue is of course at first a foreign language.

Let the teacher read the following fragment of a simple narrative, beginning *at the end* and reading backward. It will help him comprehend the child's need of developing automatic skill. For the child's difficulties are at first, when the mechanics of reading are all strange to him, much greater than are ours in the experiment:

hung which flapshad also some embroidered much in step the over  
piece had pattern selaborate more foot the over one and heel the  
behind seam one had moccasin of kind simplest the them shaping  
of ways different had tribes various the moccasins wore they dowe  
as leather of shoes wearing of instead beads and claws bear teeth  
elk so of made necklaces wear to liked and ornaments of fond were  
indian the finery other and beads feathers bird quills porcupine  
with embroidered were these sometimes

Various tests have been devised to measure the reading skill of children in the earlier grades. One of the most

generally used is that devised by Professor F. J. Kelly, and is called the "Kansas Silent Reading Test." It consists of sixteen graded paragraphs, each requiring that the child read understandingly some simple direction, and then do what it demands. The score value varies for the different paragraphs as indicated after the number of each. Samples for grades three, four and five are given below:<sup>1</sup> (Time allowed, *five minutes*.)

## No. 8

Count the letters in each of the words written below. You will find that pumpkin has seven letters, and thanks has six letters. One of the words has five letters in it. If you can find the one having five letters, draw a line around it.

Value  
1.9

breeze thanks yours pumpkin duck

## No. 9

Here are some names of things. Put a line around the name of the one which is most nearly round in every way like a ball.

Value  
2.0

saucer teacup orange pear arm

## No. 10

A recipe calls for milk, sugar, cornstarch and eggs. I have milk, sugar and eggs. What must I get before I can use the recipe?

Value  
2.1

## No. 11

We planted three trees in a row. The first one was nine feet tall and the last one was three feet shorter than the first one. The middle one was two feet taller than the last one. How tall was the middle one?

Value  
2.2

---

<sup>1</sup> The blanks are published by the Kansas State Normal School, Emporia, Kansas.

No. 12

Value 2.2 Below are three lines. If the middle line is the longest, put a cross after the last line. If the last line is the longest, put a cross after the first line. If the first line is the longest, put a circle in front of the middle line.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

No. 13

Value 3.1 Three men have to walk to a town ten miles away. Each man carries a load. The first carries 25 pounds, the second 30 pounds, and the third 40 pounds. The heavier the load the slower the man travels. In order that they may arrive in town at the same time, which man must start first?

\_\_\_\_\_

No. 14

Value 3.5 My house faces the street. If a boy passes my house going to school in the morning, walking toward the rising sun, with my house on his right hand, which direction does my house face?

\_\_\_\_\_

No. 15

Value 4.8 Fred has eight marbles. Mary said to him: "If you will give me four of your marbles, I will have three times as many as you will then have." How many marbles do they both have together?

\_\_\_\_\_

## No. 16

If in the following words *e* comes right after *a* more times than *e* comes just after *i*, then put a line under each word containing an *e* and an *i*, but if *e* comes just before *a* more times than right after *i*, then put a line under each word containing an *a* and an *e*.

Value  
8.9

receive      feather      teacher      believe

By the end of the first year the child should have attained :

1. Ability to recognize all letters of the alphabet easily at sight in any combination, and know the elementary sounds they represent.
2. Ability to recognize and sound the simpler phonograms and employ them with fair facility.
3. Ability to read easily and write understandingly the material of three or more primers and first readers.
4. The memorizing of from eight to twelve poems suited to his grade.

By the end of the third year the pupil should have mastered practically all the mechanical phases of reading. By the use of phonograms he should be able to pronounce new words of reasonable difficulty. He should know and be guided by the use of periods, commas, exclamation points and question marks. He should have become sufficiently familiar with the use and order of words in sentences that he is able to read any material within his understanding and not exceeding his vocabulary with ease and enjoyment. If this standard is met, the way is then open through the remaining grades to place chief stress on the content side of the reading.

**Skill in oral expression.**—From the beginning of the child's reading, skill should be sought in *oral expression*. To this end there must first of all be *ideas* to express—the

thoughts and feelings to be expressed must be fully comprehended. Next, the child must be made to realize that he is to *tell* to others what he reads. These two simple principles, if carefully carried out, will save much of the expressionless and monotonous word-pronouncing that passes as reading.

The teacher must proceed with patience, however, remembering that the child's brain but slowly sets up the connections between the *eye* center and the *speech* center. Naturalness of tone, good articulation and enunciation, and freedom from unpleasant mannerisms should be striven for from the first. It is much easier to *form* them than to *reform* in all such matters.

### *Material—What to Teach*

The material for elementary reading should be selected with two fundamental principles in mind:

1. It should have *interesting content* and *attractive literary form*.
2. It should be *adapted to the age, interests, and present experiences* of the readers.

**Reading material to possess content.**—In a number of the older methods of teaching reading, the emphasis on word mastery and skill in the use of phonograms was so strong that everything else was sacrificed to this end. We then had pages of such sentences as, "A fat cat had a bad rat." "A sad man had a hat." We have come to see, however, that such empty and senseless material is not best even for the beginners, where phonograms are being learned. Indeed it is precisely at this stage, where the mechanics are being mastered, that we must keep the child from forming the impression that reading is just the learning of so

many words. From the very first the pupil should be led to think of reading as consisting of interesting stories and beautiful poems, the mechanics being necessary as a *means for getting at this desirable content*. The English language is marvelously rich in real literature adapted to children, which makes the problem of selecting reading material reasonably simple.

**Material to be adapted to age and interest.**—Probably nowhere in the whole curriculum is greater care needed to adapt the material to age and ability than in elementary reading and literature. The principle so strongly urged in Chapter VIII must be applied here: *The needs of the child and not the literary quality of the material must determine the selection*. The first question is not whether a certain story or poem is of *literary merit*, but whether it is within the range of the child's capacity and interest. If not, then not only will its literary merit fail to impress, but the child will lose his enthusiasm for reading, and we shall but cultivate distaste where we sought to develop taste. Not the literary standards of adults, but the *response of the child*, then, is to be the first criterion of the suitableness of material for the grade where it is offered. Having said this, let us hasten to add that plenty of adaptable material of real literary merit may be found for children's reading.

**Sources of first-grade material.**—Several different sources are open from which to select material:

1. Stories known by the children or told them by the teacher.
2. Games and plays.
3. Nature study and other general lessons.

*The use of stories.* The importance of the story in teaching children to read can hardly be overestimated. Oral stories stimulate the child's interest in such material and

make him *want* to read, so that he may enjoy the stories for himself. They show him the practical use of reading and convince him that he needs reading. They also supply the nucleus of interest necessary to make the learning of the mechanics of reading a pleasurable activity, instead of a dry task. No teacher is fully equipped to teach elementary reading who does not know a wide range of suitable stories and possess skill in telling them. Besides the stories told the children, still others may be read to them.

*Stories to be told or read.* There are so many good stories that there is no one best list. The following are approved by primary teachers:<sup>1</sup>

*The Ginger Bread Man*  
*Snow-white and Rose-red*  
*The Elves and the Shoemaker*  
*The Talkative Tortoise*  
*The Little Fir Tree*  
*The Boy Who Cried Wolf*  
*The Little Red Hen*  
*The Little Hero of Harlem*  
*The Hare and the Tortoise*  
*Henny-Penny*  
*Selling Timothy Likes*  
*The Sheep and the Pig*

*The Sleeping Princess*  
*The Two Little Cooks*  
*The Crow and the Pitcher*  
*Who Ate Dolly's Dinner*  
*The Christmas Story—Bible*  
*The Snow-drop*  
*Cinderella*  
*Noah and the Ark*  
*The Four Little Pigs*  
*Little Red Riding Hood*  
*The Wren and the Bear*  
*Simple Simon*

*Stories and poems to be memorized.* The children should memorize from eight to twelve such stories and poems as the following during the first year:

*My Shadow, Stevenson*  
*Little Boy Blue, Mother Goose*  
*Little Bo-Peep, Mother Goose*  
*Bed in Summer, Stevenson*  
*At the Seaside, Stevenson*  
*Jack and Jill, Mother Goose*

<sup>1</sup> See list of books for the teacher, page 156.

*Cradle Hymn*, Luther  
*Minnie and Mamie*, Tennyson  
*I Love Little Pussy*, Taylor  
*Birdie With the Yellow Bill*, Stevenson  
*The House That Jack Built*, Mother Goose  
*Who Has Seen the Wind*, Rossetti  
*The Rain*, Stevenson  
*Sleep, Baby, Sleep*, From the German  
*Twinkle, Twinkle, Little Star*, Taylor  
*Robin Red-breast*, Mother Goose  
*Little Drops of Water*, Brewer  
*The Dandelion*, Author Unknown  
*Milking Time*, Rossetti

*Material originating in games and plays.* Reading material easily and naturally correlates with the games and plays which children know or should be taught. For example, after the children are able to play readily *Simon says* "Thumbs up" and "Thumbs down," the teacher can write "Thumbs up" and "Thumbs down" on cards, and have the game played by flashing the cards before the class. The ingenious teacher will suit devices to many games and plays to introduce action, competition and the need for alertness and attention into the learning of new words and sentences.

*Finding material in nature study, etc.* In similar way the every-day experiences of the school can be made to supply material for the reading class. A nature lesson on opening buds or falling leaves, a sudden rain beating on the windows, the clouds floating by, the bees hovering over the flowers—these and many such topics catch the child's interest and stimulate his expression. They are therefore a good basis for the introduction of new words and for sentences and stories reviewing words already presented.

*What to teach about the mechanics of reading.* The best primary teachers of the present day have declared against diacritics and excessive use of phonics in the first grade.

Phonic work should not be started until the child has had some two months in school and might be delayed most of the first half year without loss. Diacritics should not be taught the first year, though the long and the short sound of each vowel should be given without the marks. A considerable range of the phonograms (depending on the primers or readers in use) should be given during the last half of the year. The letters of the alphabet and the elementary sound values should be taught as the reading ability progresses. *The drill in phonics should be at a separate period and not combined with reading and literature.*

**Second-grade material.**—Opinions differ as to whether the second year of reading should be based chiefly on short stories and poems, or on a longer production which may continue for a number of weeks or months. Many schools use *Hiawatha* for second-year material. This question is, however, not so important as that of selecting the material, long or short, so that it will fit into the present experiences of the children or awaken in them experiences for which they are ready. The teacher will usually have as the basis for her work one or more readers adopted as a standard. An abundance of supplemental material should also be presented. The child learns to read *by reading*, and should be given much easy matter full of interest to him and of value for itself.

*Stories to be read or told to the children.* The oral story will still play an important part in the reading work of the second grade. The following have been found to be adapted to second-grade children:

*Aladdin*  
*David and Goliath*  
*The Sun and the Wind*  
*Beauty and the Beast*  
*Raggylug*

*The Fisherman and His*  
*Wife*  
*The Frog King*  
*Hans in Luck*  
*Little Black Sambo*

*Why the Morning Glory  
Climbs*

*The Tale of the Littlest  
Mouse*

*The Stork and the Dog*

*The Wonderful Porridge  
Pot*

*The Sun's Sisters*

*Legend of the Woodpecker*

*A Christmas Legend*

*The Pig Brother*

*The Queen Bee*

*The Gray Goose*

*Tithy-Mouse and Tathy-  
Mouse*

*Grandmother's Curtains*

*The Fox and the Crow*

*The House in the Wood*

*Legend of the Sunflower*

*The Golden Touch*

*Baucis and Philemon*

*Indian Legend of the Robin*

*Belling the Cat*

*The Traveling Musicians*

*The Story of Persephone*

*Stories and poems to be memorized.* From ten to fifteen stories and poems such as the following should be memorized during the year:

*My Ship, Stevenson*

*The Mountain and the Squirrel, Emerson*

*The Wind, Stevenson*

*The Land of the Counterpane, Stevenson*

*The First Christmas, Poulsson*

*Sweet and Low, Tennyson*

*My Bed is a Boat, Stevenson*

*The Owl and the Pussy Cat, Lear*

*Jemima Brown, Richards*

*The Lost Doll, Kingsley*

*Extremes, Riley*

*The Tree, Björnson*

*Spring, Thaxter*

*The Monkey and the Crocodile, Richards*

*Foreign Children, Stevenson*

Many other stories and poems are, of course, available for children of this grade. Before the child is asked to commit a production be sure that he *understands* it and *likes* it. Committing such material to memory should be a joy instead of a dry task.

*Mechanics.* On the side of the mechanics of reading the work of the second grade will stress the sounds of letters, and phonics. The chief phonograms will be developed and applied to new words as they appear in the readers or outside material. The great thing in this connection is so to organize the work that the phonograms learned are *put at work* in the learning of new words. The drill given should also aim at clear enunciation and articulation with a view to improving oral speech and reading.

Attention should now be called to punctuation marks, and their names learned. From this time on they should increasingly become a help in both silent and oral reading.

**The third-grade material.**—Besides the standard reader, several sets of supplementary readers should be available. During this year one or more longer poems or stories should be read. *Hiawatha* and an adaptation of *Robinson Crusoe* are most used for this purpose. Such reading trains the child in sustained memory and interest, besides developing the idea of wider situations and more complete activities than are revealed in shorter stories and poems. However, the shorter stories and poems are not to be omitted from the reading course.

*Stories to be told or read to the children.* The story telling should continue. Not only do the stories give enjoyment, but they stimulate the imagination, and serve to develop taste for good reading. Many of them have a distinct moral value, and all together help to train the reading habit. The following are a few of the many stories available for third-grade use:

*Robinson Crusoe*  
*Sinbad the Sailor*  
*The Story of Wyhi*  
*The Frog and the Ox*

*The Ugly Duckling*  
*The Pine Tree*  
*Uncle Remus* (Selected  
Stories)

<i>Spinning Song</i> (Wordsworth)	<i>The Spider and the Fly</i>
<i>The Anxious Leaf</i>	<i>The Spindle, Needle and Shuttle</i>
<i>The Brave Tin Soldier</i>	<i>The Crow and the Fox</i>
<i>Tubal Cain</i>	<i>The Sleeping Beauty</i>
<i>Rumple-Stilts-Kin</i>	<i>Puss in Boots</i>
<i>Who Killed the Otter's Babies?</i>	<i>Reynard the Fox</i> (Selected Stories)
<i>The Brahmin, the Tiger and the Jackal</i>	<i>The Little Gray Grandmother</i>
<i>Toomai of the Elephants</i> (Kipling)	<i>Little Sunshine</i>
<i>The Judgment of Midas</i>	<i>The Gold Beads</i>
<i>The Oak Tree and the Timber</i>	<i>Jack and the Bean Stalk</i>
	<i>Tom Thumb</i>
	<i>The Golden Bird</i>

*Stories and poems to be memorized.* Besides reviewing the stories and poems previously memorized, third-grade children should add not less than ten during the year. The following offer good material, and are of the type that should be used in preference to the cheap rhymes and senseless verse so often imposed upon children for "special days" or programs:

*The Twenty-third Psalm*, the Bible  
*Autumn Fires*, Stevenson  
*The Land of Nod*, Stevenson  
*Do Not Look for Wrong or Evil*, Cary  
*The Dutch Lullaby*, Field  
*How the Leaves Come Down*, Coolidge  
*Marching Song*, Stevenson  
*One, Two, Three*, Bunner  
*America*, Smith  
*The Brook*, Tennyson  
*What the Winds Bring*, Steadman  
*My Ship and I*, Stevenson  
*The Blue Bird*, Miller  
*Good Night and Good Morning*, Houghton  
*Father, We Thank Thee*, Anon.

*Library material.* Almost from the beginning of the course in reading the work should be correlated with the local library where such is available. The library should be encouraged to purchase books suitable for children, and to make it easy for children to secure and make use of the books. The children should be led by the teacher and the librarian to form the *library habit*. The third-grade child should have learned how to draw books from the library, the rules to be observed, and should have some knowledge of the most interesting books available in the local library. The following are some books for the library that are especially useful for the first three grades:

*The Golden Goose Book*, Brooks  
*A Book of Nonsense for Children*, Lear  
*Little People of the Snow*, Muller  
*Æsop's Fables*, Bott  
*Folk-Lore Stories and Proverbs*, Wiltse  
*Fairy Stories and Fables*, Baldwin  
*Stories of Mother Goose Village*, Bigham  
*Little Folks of Other Lands*, Chaplin & Humphrey  
*Nature Myths*, Holbrook  
*Peter Rabbit*, Potter  
*Squirrel Nutkin*, Potter  
*The Farm Book*, Smith  
*The Chicken Book*, Smith  
*Andersen's Fairy Tales*, Stickney  
*Fifty Famous Stories Retold*, Baldwin  
*Adventures of a Brownie*, Craik  
*Miss Muffett's Christmas Party*, Crothers  
*The Sandman*, Jewett  
*Stories of Indian Children*, Husted  
*Heart of Oak Books*, Norton  
*Five Minute Stories*, Richards  
*The Story Hour*, Wiggin and Smith

*Mechanics.* As stated earlier in the chapter, the mechanics of reading should be practically mastered by the end

of the third year. The child should in this year, therefore, complete the phonics which may remain from the previous grades, and should learn the diacritical marks. He should be made entirely familiar with the function of punctuation marks and learn to use them as a help in reading. Drills in articulation and enunciation should be continued, and bad habits of expression corrected.

This does not mean that no further attention will need to be paid to mechanics after the third grade. Review of the harder points and much practise to secure skill in expression will of course be required. But from this time on if the previous teaching has been good, *chief attention can be given to content and appreciation.*

**Fourth-grade material.**—The child has for three years been learning to read; he should now be ready to *read to learn*. While he has by this time read much good material, yet constant attention has been required to the mechanical side. By the beginning of the fourth grade the emphasis should shift. Thought, feeling, interpretation, enjoyment in reading are now the chief ends. Experience should now broaden and a sense of values develop rapidly through the reading and literature.

*Sources of reading material.* In most schools the standard readers will supply the basis of material. There should either be several sets of readers, or better still, an abundant supply of graded classics suitable for this grade. The teacher should not hesitate to omit stories or poems from the readers which seem unsuited to the pupils, and substitute for them better material.

Especially should children now have an opportunity to read for themselves the stories they have heard told or read earlier in the course. The repetition will do no harm. On the other hand, familiarity with the story will aid in the

reading and its enjoyment; it will also help in learning new words, through their use in a familiar context.

The library should at this stage be generously drawn upon. If children are allowed occasionally to select a story from a library book and read it to the class it will add interest and aid in developing the right attitude toward the library as a source of readable material. Children's magazines, and such current material as gives account of inventions, the construction of various articles to be made by the children, or the different industries, should furnish their share of matter.

*Stories and poems to be read or told to the children.* Oral stories should still continue. Since the child is now able to read for himself, the teacher's part as a story teller may decrease somewhat, but it should not drop out. There is small danger of hearing too many good stories, either for their real enjoyment or to stimulate the reading of stories for one's self. The following are suitable for this grade:

*Robin Hood*  
*The Gold in the Orchard*  
*Little Lame Prince*  
*About Ben Adhem*  
*The Burning of Rice Fields*  
*How the Robin's Breast*  
*Became Red*  
*The Bell of Atri*  
*St. George and the Dragon*  
*The Jabberwocky*  
*Snowdrop*  
*The Monkey and the Chest-*  
*nuts*  
*Beauty and the Beast*  
*Bible Heroes, Jacob, Joseph,*  
*Samuel, David*  
*The Miraculous Pitcher*

*Prince Cherry*  
*Wonder Book*  
*The Dagda's Harp*  
*Kipling's Just-So Stories*  
*The Buck Wheat*  
*Apple Seed John*  
*The Two Flags*  
*Sheltering Wings*  
*Three Feathers*  
*Lochinvar*  
*Dick Whittington and His*  
*Cat*  
*Robin Hood Ballads*  
*The Gorgon's Head*  
*The Chimera*  
*St. George and the Dragon*

*To be memorized.* Continue the work in memorizing, letting the child's interest be an important factor in selecting the material:

*The Thirty-sixth Psalm, 1-9, the Bible*  
*My Treasures, Stevenson*  
*The Unseen Playmate, Stevenson*  
*The Norse Lullaby, Field*  
*Star Spangled Banner, Key*  
*Little John Bottlejohn, Richards*  
*Lullaby for Titania, Shakespeare*  
*The Children's Hour, Longfellow*  
*Foreign Lands, Stevenson*  
*The Brown Thrush, Larcom*  
*Seven Times One, Ingelow*  
*Dream March, Riley*  
*Sweet and Low, Tennyson*  
*The Brook, Tennyson*  
*Pirate Story, Stevenson*

*Library material.* The library should be an increasingly larger factor in the reading course as the child progresses from grade to grade. The following represent the types of books that should be available for the fourth grade. The teacher can often work with the librarian to see that needed books are added to the local library list:

*Alice's Adventures in Wonderland, Carroll*  
*Granny's Wonderful Chair, Browne*  
*Wonder Book, Hawthorne*  
*A Boy on a Farm, Abbott*  
*Lulu's Library, Alcott*  
*Little Lord Fauntleroy, Burnett*  
*The Story of Siegfried, Baldwin*  
*Greek Heroes, Kingsley*  
*Story of the Iliad, Church*  
*Story of the Odyssey, Church*  
*Jason's Quest, Lowell*  
*Adventures of Ulysses, Lamb*  
*The Tanglewood Tales, Hawthorne*

*Norse Stories*, Mabie  
*Rollo Books*, Abbott  
*Play Days*, Jewett  
*Wigwam Stories*, Judd  
*Jungle Books*, Kipling  
*Ways of Wood Folk*, Long  
*Pussy Willow Stories*, Stowe  
*Five Little Peppers*, Sidney  
*Adventures of a Brownie*, Mulock

*Mechanics.* Apply phonetics to the mastery of new words. Review and apply diacritical marks. Begin use of dictionary for pronunciation. Teach how to find words quickly and easily, and to pronounce from marks. Do not depend much on dictionary for definitions at this stage. The meaning of a word can be learned better in connection with its *use* in the context. Correct any bad habits in oral reading. Work for good expression.

**Fifth- and sixth-grade material.**—By the time children have reached this stage their interests, if they have been well trained, are surprisingly broad. They know something of the world of nature, of industry, of history, of literature, and many things besides. There is, therefore, almost no end to the range of material adapted to their reading. Here as before the great problem is to give matter that is stimulating and elevating, and yet within the child's capacity. Nothing is ever gained, but much is lost, by forcing upon children literary productions, however good in themselves, before they are ready for them.

Professors Bobbitt, Boyce and Perkins, in a study made of fifty courses of study representing thirty-six different cities and fourteen different states, found that the following were the readings most frequently used in the fourth and fifth grades:<sup>1</sup>

<sup>1</sup> See *Elementary School Teacher*, December, 1913.

*Black Beauty*, Sewell  
*King of the Golden River*, Ruskin  
*Wonder Book*, Hawthorne  
*Swiss Family Robinson*, Wyss  
*Tanglewood Tales*, Hawthorne  
*Jungle Books*, Kipling  
*Fanciful Tales*, Stockton  
*Little Women*, Alcott  
*Wild Animals I Have Known*, Seton  
*Just-So Stories*, Kipling  
*Merry Adventures of Robin Hood*, Pyle  
*Norse Stories Retold from Eddas*, Mabie  
*Ten Boys*, Andrews  
*Little Lord Fauntleroy*, Burnett  
*In the Days of Giants*, Brown  
*Uncle Remus*, Harris  
*Wilderness Ways*, Long  
*Jackanapes*, Ewing  
*Greek Heroes*, Kingsley  
*Story of King Arthur and His Knights*, Pyle  
*North America*, Carpenter  
*Through the Looking-Glass*, Carroll  
*Story of Ulysses*, Clarke  
*Story of the Odyssey*, Church  
*Two Little Confederates*, Page  
*Lobo, Rag and Vixen*, Seton  
*Arabian Nights*  
*Hans Brinker*, Dodge  
*Little Men*, Alcott  
*Rip Van Winkle*, Irving  
*Heidi*, Spyri  
*King Arthur and His Knights*, Radford  
*Gulliver's Travels*, Swift  
*Story of a Bad Boy*, Aldrich  
*Hoosier Schoolmaster*, Eggleston  
*Squirrels and Other Fur Bearers*, Burroughs  
*Under the Lilacs*, Alcott  
*Europe*, Carpenter

Magazines, newspapers and journals of current events should have an increasing use as reading material.

*Stories and poems to be told or read.* The oral story work should continue but with less time devoted to it. The children themselves may be allowed, as a part of the language work, to tell short stories. They may also occasionally be asked to read a story or poem to the class. The type of material adapted to these uses has been sufficiently indicated in the preceding pages.

*To be memorized.* Do not let the habit of memorizing beautiful poems and stories lapse. It should continue throughout life.

*The First Psalm, Bible*  
*The Twenty-fourth Psalm, Bible*  
*Today, Carlyle*  
*The Japanese Lullaby, Field*  
*The Landing of the Pilgrims, Herman*  
*Christmas Bells, Longfellow*  
*The Daffodils, Wordsworth*  
*The One-Hundredth Psalm, Bible*  
*The Village Blacksmith, Longfellow*  
*The Mountain and the Squirrel, Emerson*

*Material for the library.* Keep the library habit growing. A growing desire to read good books is the very best evidence of the success of the course in reading. Many such books as the following should be available *and should be used*:

*Little Women, Alcott*  
*Little Men, Alcott*  
*Rose in Bloom, Alcott*  
*Peter and Wendy, Barry*  
*Boyville, Gunckel*  
*Little Colonel Series, Johnston*  
*Secrets of the Woods, Long*  
*Beautiful Joe, Saunders*

*Black Beauty*, Sewell  
*Old Deerfield Stories*, Smith  
*Fanciful Tales*, Stockton  
*Story of Patsy*, Wiggin  
*Old-Fashioned Girl*, Alcott  
*The Story of a Bad Boy*, Aldrich  
*For the Honor of the School*, Barbour  
*In the Boyhood of Lincoln*, Butterworth  
*Story of the Rhinegold*, Chapin  
*The Last of the Mohicans*, Cooper  
*Boots and Saddles*, Custer  
*The Hoosier Schoolmaster*, Eggleston  
*The Night Before Thanksgiving*, S. O. Jewett  
*The Adventures of Ulysses*, Lamb  
*Life of Robert Louis Stevenson*, Overton  
*The Boy Lincoln*, Stoddard  
*Gulliver's Tales*, Swift  
*Being a Boy*, Warner  
*Rebecca of Sunnybrook Farm*, Wiggin

**Seventh- and eighth-grade material.**—Probably by the seventh grade and certainly by the eighth grade the serial school readers should be completed and give way to literary wholes as the basis for study. It is to be remembered that the age of adolescence has now arrived with its broadening social interests, and its new outlook upon life. Literature with a heroic strain and a dramatic movement will exert a strong appeal. Sentiment is also deepening and the more intimate values of life and its relations are asserting their claims. The practical and vocational interests are becoming more definite and must have their share of attention.

In reading the literary masterpieces it is to be recognized that the object sought is *not close literary inspection*, but appreciation, interest, enjoyment and the broadening and enriching of experience. Current magazine and journal material should have a wider use than it usually has in these grades, both from its own intrinsic value and because of the

possibility of helping in this way to form good reading habits. It is more difficult for the teacher to use this type of material than that found in the text-books, but it is worth the extra effort.

The material most commonly read in the seventh and eighth grades as found by Bobbitt, Boyce and Perkins is as follows:

*Tales from Shakespeare*, Lamb  
*Christmas Carol*, Dickens  
*Snow Bound*, Whittier  
*Miles Standish*, Longfellow  
*Evangeline*, Longfellow  
*Sketch Book*, Irving  
*Birds and Bees*, Burroughs  
*Last of the Mohicans*, Cooper  
*Story of Siegfried*, Baldwin  
*The Spy*, Cooper  
*Autobiography*, Franklin  
*Grandfather's Chair*, Hawthorne  
*Great Stone Face*, Hawthorne  
*Sharp Eyes*, Burroughs  
*David Copperfield*, Dickens  
*The Legend of Sleepy Hollow*, Irving  
*Captains Courageous*, Kipling  
*Horatius at the Bridge*, Macaulay  
*Two Years Before the Mast*, Dana  
*Prince and the Pauper*, Clemens  
*Story of Roland*, Baldwin  
*Pilgrim's Progress*, Bunyan  
*The Man Without a Country*, Hale  
*Lady of the Lake*, Scott  
*Julius Caesar*, Shakespeare  
*Treasure Island*, Stevenson  
*Cricket on the Hearth*, Dickens  
*Ivanhoe*, Scott  
*Merchant of Venice*, Shakespeare  
*Tom Brown's School Days*, Hughes  
*Vision of Sir Launfal*, Lowell  
*Uncle Tom's Cabin*, Stowe

**Material to omit.**—It is as important to know what to omit as what to select for children's reading. Material that is beyond their grasp or that does not meet the response of any interest not only has failed of its purpose, but has served to dull the edge of taste and desire for reading. For example, there are parts of *Idylls of the King* in which there are sentiments yet unknown to the child. *Thanatopsis*, which is taught in many seventh and eighth grades, presents a philosophy of life (and death) beyond the grasp of the child's understanding. Many of Hawthorne's stories are enveloped in gloom, and too depressing for this age. We are to be guided by the principle already stated, *the child and not the excellence of the literary material is to be our criterion*.

**Books for the teacher.**—Either through the school or local library, or else by personal ownership the teacher of elementary reading should have accessible such books as the following:

*For the Story Teller*, Bailey  
*Stories of the East*, Baldwin  
*Open Sesame* (3 vols.), Bellamy and Goodwin  
*Merry Animal Tales*, Bigham  
*How to tell Stories*, Bryant  
*Stories to Tell*, Bryant  
*Poems That Every Child Should Know*, Burt  
*Fairy Tales*, edited by Jerrold in Children's  
Classics Series  
*Child's Garden of Verse*, R. L. Stevenson  
*Mother Goose Rhymes*, Wheeler  
*Mother Goose, The Complete*, E. F. Betts  
*Heart of Oak Books*, I and II, Norton  
*Love Songs of Childhood*, Eugene Field  
*Nonsense Book*, Edward Lear  
*Story-Telling Poems*, Olcott

*Organization and Presentation*

Much of the success of teaching reading depends on skilful presentation. This is because the interpretation of literature has so large a personal element in it. The kindling eye, the expressive face, the interested manner, the well modulated and appealing voice are all vital factors in making the story or poem live before the class. All these things are also in some degree contagious, and, consciously or unconsciously to the pupils, tend to shape their standards and determine the quality of their own expression. Even in teaching the mechanics of reading the personal factor is of the greatest importance.

**Starting the beginners.**—When our grandfathers went to school there was no trouble about the method by which they should learn to read. There was but one method—they first learned their *letters*, then built these into *syllables* (*a-b ab, e-b eb, i-b ib*, etc.), next made these into *words*, and finally assembled the words into *sentences*. It was supposed that, since the letter was the smallest of the divisions of our language, it must therefore be the most easily learned, and the syllable next, and so on. This system gave us the *alphabet*, or *a-b-c*, method. It was a *logical* instead of a *psychological* method; it considered the material instead of the child.

The next step in primary method (if not in time, at least in psychological sequence) was to conceive that the child should first be given, not letters, but certain *sounds*, or phonograms, and then trained to build these into words. So we had various types of *phonetic* methods. Having learned the sound of *c* (with a “collar” on!), the sound of *b*, of *h*, etc., and also having learned certain “families” as the *ab*, the

*at*, the *ad* family, the child then proceeded to build his words as he required them. Or, meeting a new word, he took it apart into its phonograms and thereby knew how to pronounce it.

This also was a logical instead of a psychological method, for the reason that the child's first contact with speech is not in the form of *dis-membered* words. It is rather with whole living words used to express some interesting thought. The realization of this simple fact has led to recent *sentence-word* methods, in which words are learned as parts of the sentences used in familiar speech by the children themselves. From this starting point, phonograms and individual letters are learned. This method is psychological, in that it follows the order of the child's natural approach to printed speech. It is undoubtedly better than either of the other two because it is psychological.

The same results in knowledge, it is to be noted, may be reached by any one of the three methods; namely, a knowledge of letters, phonograms, words, sentences. The difference is one of *organization*, or mode of approach. And this makes all the difference in the methods and their efficiency.

**Prevention and cure of bad reading habits.**—The best remedy for bad habits is to prevent their formation. This can be done in the matter of reading without great difficulty if the child is *started right*. As already suggested it is easier to *form* than to *reform*. The habit of expressionless droning, of mere word-saying, of singsonging monotone, of inaudible mumbling, *can be prevented* in most children.

Most of these faults originally come from over-mechanizing the reading. The child is asked to read before he can *read*. At a time when his thought must be full of *word-recognition* he is called upon for *thought-expression*. The result is that he only expresses *words*. He does the same thing

that the high-school student does when he attempts to read Latin that he does not know.

*The Remedy?* Let the child at the beginning be fully familiar with the entire sentence or story *before he is asked to read it*. Let him know all the words. Let him know all the thought, but not have it committed to memory. Then let him *tell* the story from the printed page. Give him thought that he knows, give him words that he knows, and then call for the expression. Finally use these words in new context until they are recognized anywhere. This method of procedure will require that much oral story work shall precede reading, so that children will be reading very familiar material. It will require that reading material growing out of games or school lessons shall first be made familiar in oral form before it is given the child to be expressed as reading. It is safe to conclude that lack of expression in a child's reading commonly comes from one or more of three factors:

1. Lack of ideas to express, the meaning not grasped.
2. The mechanics so unfamiliar as to demand excessive attention.
3. Shyness, embarrassment, or other hindering mental attitude.

It is to be understood, of course, that bad habits once formed will require much patient correction and practise for their cure. They must not be neglected.

**Dramatization.**—The child's instinct for dramatization should be freely utilized in teaching reading. Freedom from self-consciousness and the willingness to undertake the representation of almost any character make the child an ideal actor. Children who have acted out *Cinderella*, *Belling the Cat*, *Midas* and *the Golden Touch*, speaking the parts as they

act them, will hardly fail to put expression into their reading of them. To arrange for such dramatization, or even part-reading, requires some time and trouble on the part of the teacher, but it pays.

**Appreciation and enjoyment.**—It can not be too strongly urged that one of the chief aims of teaching reading is to develop the *habit* of reading. This can be done only if the reading actually done yields enjoyment. Our method of teaching must be such therefore that the interesting and enjoyable things are brought out, and that nothing is done which will deaden the interest or kill the enjoyment.

This point of view suggests that we shall not aim to make literary critics of our pupils by stressing chiefly the structure, the mechanics or the style of the production. We shall not even trouble them too much with irrelevant details about the life of the authors. Some of the ways in which we may help increase the child's enjoyment in what he reads are the following:

1. Whet the appetite with interesting bits of the story in assigning the lesson.
2. Ask questions about persons, motives or events.
3. Ask children to decide which character they would rather be and why.
4. Ask class to think how the story might have been made to end differently, etc.
5. Be sure that no too-difficult word, thought or allusion is left unexplained in the assignment.
6. Give the story its interesting historical or social setting when this can be done.

**The appeal to imagination.**—The central factor in interpreting and enjoying literature is imagination. Not until the objects, actions and situations described are made real by this picturing power of the mind do their full value

and meaning appeal to the reader. Unless as one reads *Evangeline* or *The Vision of Sir Launfal* the pictures rise in the mind, the significance will have dropped out and the throbbing scenes of life and action become but so many dead words.

The teacher can greatly stimulate the child's imagination by asking a question here and offering a suggestion there that will serve to vivify the situation described. A helpful device is to ask the class to shut their eyes and see the forest, or the ocean, or the event with their *mind's eyes*; or to hear the sounds with their *mind's ears*, etc. Asking for details of color, distance, direction and so on will still further aid the imaging. Often an expressive reading of a section by the teacher will help the children form their mental pictures. Pity the child to whom falls the calamity of having a teacher who, himself untouched by the imagery of a poem, makes its reading a matter of dead routine!

**Oral and silent reading.**—The older standard of reading was chiefly an oral standard. As books have multiplied and other reading matter increased, however, most people read silently far more than aloud. This has led us to see that our children should have more definite training and also more practise in silent reading. According to the best judgment now available the proportion of oral and silent reading should be about as follows:

First grade—Oral, 80 per cent. ; silent, 20 per cent.

Fifth grade—Oral, 50 per cent. ; silent, 50 per cent.

Eighth grade—Oral, 20 per cent. ; silent, 80 per cent.

Of course it is not meant that these proportions shall be more than approximate. They show, however, a steady change in emphasis from oral to silent reading through the grades.

**Home reading.**—The larger use of silent reading has added greatly to the importance of reading in the home. This phase of the reading course should be encouraged in every possible way, for it adds to the amount of time well spent by the child, and also gives him a pleasant occupation that will tend to keep him in the home circle. Many of the books of the reading course can well be read aloud at the family fireside.

**The use of the memory.**—If the child is to enjoy and profit by the committing of stories and poems, he should be taught *how to use his memory*. Simply to tell a child to “learn this poem by heart” is a heartless and inefficient way to make an assignment. Committing to memory is an art, and it has to be learned. The following rules should guide in the use of the memory:

1. *Commit by wholes instead of by fragments.* If a poem of several stanzas is to be learned, go over them *all*. Then go over them again, and again. This method has been found by careful experiment to be much more effective than to learn one stanza at a time and then piece them together. Of course certain troublesome places may need special attention.

2. *Try to picture and make real the persons, the events, or the actions involved.* It is easier to make the words to be committed attach to such realities than merely to one another as empty words. A production learned in this way will also have *meaning*.

3. *Review frequently until the matter is thoroughly fixed.* Material that is barely learned will not stay learned. If it is gone over at intervals of a few days for a time it will become much more secure.

# QUESTIONS AND PROBLEMS

1. Formulate the aims of reading, *grade by grade*, under the three heads used in the chapter for defining aim. Then estimate your points of greatest success and greatest difficulty as measured by these aims.

2. Have you any pupils whose attitude toward reading and literature is indifferent? If so, can you locate the difficulty, (1) in the adaptability of the subject-matter, (2) in your method of presentation, or (3) in low-grade ability of the pupil? Have you discovered what such pupils like to read outside of school?

3. Can you not secure one or more of the reading tests, such as the Kansas test or the Courtis test, and measure the ability of your pupils? Full directions accompany the blanks, and you can compare your pupils with those of other schools. Have your pupils the degree of skill asked for on page 138? If not, where does the fault lie?

4. Outline your method of teaching beginners, and justify the plan you use. When do you begin phonics? Why should the lesson in phonics be separate from the reading lesson? What devices do you employ to secure careful articulation? Clear enunciation? Good expression?

5. Suppose a fourteen-year-old boy asked you for a list of six books for a winter's reading, what would you recommend? For a fourteen-year-old girl? What use do you make of dramatization in teaching literature? Make a list of several good productions to dramatize in each grade.

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## CHAPTER XI

### SPELLING

**W**E have probably been less successful in teaching spelling than any other branch. Spelling is taught in every grade and in many high schools; yet our children do not spell so well as we should like. They misspell many seemingly easy words *and keep on misspelling them*. They spell certain words correctly in their spelling classes, or even win medals on them in spelling contests, and then spell the same words incorrectly in their letters or other written work. Something needs to be done with our spelling.

#### *The Aim—Results Sought*

The purpose of teaching spelling is to enable one to spell correctly the *words he puts into writing*. In actual affairs one is never required to spell except when he writes, nor to spell words which he does not use in his writing vocabulary. Such words as he thus needs he must be able to spell accurately and with certainty.

**Knowledge required in spelling.**—It is a waste of time, interest and efficiency for the child to learn the spelling of a large number of words which he will never use in his written vocabulary, or to learn words which he may finally need, long before he requires them. The average written vocabulary of a child finishing the eighth grade is only slightly more than two thousand words. This has been tested by examining a large number of manuscripts of children in the various grades in different schools. Yet the spelling books commonly used in our schools contain from

eight thousand to ten thousand or even fifteen thousand words—from four to seven times as many as the child will use.

Surely the words that are in constant and common use are the words that first of all should claim our attention. These make up the lists in which all should become proficient. Our children should not be laboriously taught long, difficult and useless lists containing thousands of words which they are not yet ready to use, if indeed they ever employ them. The result of such a scattering of energy is so imperfect a mastery that many of the common words daily used in writing are misspelled. It is obvious that the first knowledge of spelling required is that of the common words used by people of all classes in their written communications with one another. The more difficult words and the words of technical meaning can then be learned as need for them arises.

In general, the best time to learn to spell a word is when it is needed. To teach the child to spell from four to seven words which he does not require for every one word that he needs is a relic of several centuries ago when spelling was taught as an end in itself.

**The cultivation of attitudes.**—Misspelling is so common a fault in the written work that little is thought of it in many schools. It is accepted as a part of the necessary and inevitable unripeness of childish intelligence. In many cases the same words are missed over and over again. It is not so much *misspelling* as *continued misspelling* that should concern us.

The child must come to have an interest and pride in correct spelling. He must develop a *spelling conscience*. Nor must this attach primarily to achievement in the spelling class or the spelling contest, but to every-day spelling shown in all forms of written work. Instead of taking with complacency the teacher's repeated correction of common

words frequently misspelled, the pupil must come to look on such slips with shame and humiliation. Children must be brought to see that the practical use of spelling as employed in writing, and not the ability to "spell down" on a list of strange words is the final measure of spelling ability and the test by which one is judged in the world of affairs.

**Skills to be attained.**—The skills to be sought through the teaching of spelling may be described under three principles, which have already been implied in the discussion:

*First*—Skill is to be sought in the words comprising the child's vocabulary as against an extended list bearing no reference to the individual vocabulary. The skill needed is of the useful practical kind and not the ability merely to show off on miscellaneous lists of words. Children do not permanently retain the spelling of difficult words learned when they have no use for them. Further, the centering of the attention on such lists tends to minimize the importance of spelling correctly in written work. Many children look upon the recitation period devoted to the spelling of desk-made lists as their "spelling" lesson and think but little of the fact that every manuscript they write is a far better test of their spelling skill.

*Second*—The test of practical spelling skill is *written*, and not oral. It is the daily written work of the whole range of school lessons, and not in the exercises of the spelling class alone. Misspellings in all written work should therefore be corrected and the troublesome words mastered, not once only but as often as is necessary.

*Third*—Spelling must be mastered so thoroughly that it becomes wholly *automatic*. One who has to stop and think how to spell a word lacks skill in spelling, even if he may finally succeed in spelling the word correctly. Spelling should become second nature, a habit so well grounded that attention is not required. The mind is then left free for concentration upon the thought under consideration, and is

not troubled with formal details. Hence the troublesome words should be repeated, reviewed and drilled upon until there is no possibility of continued error.

The degree of skill which children of the various grades have reached in spelling in one hundred different school systems of the United States has been carefully investigated by Doctor Leonard P. Ayres of the Russell Sage Foundation. It was found that an average of *seventy per cent.* of the words of the following lists were spelled correctly by the children of the respective grades. While such a list is not a final test of spelling ability, it will enable a teacher to compare her pupils in a general way with the average of American children: (It is to be understood that children who can spell seven of the ten words for their grade are just up to the average.)

SECOND GRADE	THIRD GRADE	FOURTH GRADE	FIFTH GRADE
foot	fill	forty	several
get	point	rate	leaving
for	state	children	publish
horse	ready	prison	o'clock
out	almost	title	running
well	high	getting	known
name	event	need	secure
room	done	throw	wait
left	pass	feel	manner
with	Tuesday	speak	flight
SIXTH GRADE	SEVENTH GRADE	EIGHTH GRADE	
decide	district	organization	
general	consideration	tariff	
too	athletic	emergency	
automobile	distinguish	corporation	
victim	amendment	cordially	
hospital	liquor	discussion	
neither	experience	appreciation	
toward	receive	decision	
business	conference	convenience	

*Subject-Matter—What to Teach*

It is one thing to say that the child should be taught the spelling of the words common to his vocabulary, and quite another thing to know just what words are included and what left out in this vocabulary. It is further true that the range of vocabulary varies greatly in different children. Now, since we must under present school conditions teach children in groups, it is evident that the spelling work can not be based precisely on the individual vocabularies. Nor perhaps would this method be best even if it were possible.

The better plan is to teach as the foundation of spelling ability, a *minimum list* of words made up from a careful study of the vocabularies of many grade pupils. If we add to such a minimum list all the words misspelled by the child in his written work, the range of material will be sufficiently defined.

**A minimum list.**—Doctor W. F. Jones<sup>1</sup> listed all the different words used by one thousand and fifty children in grades two to eight, inclusive, in the writing of seven thousand five hundred themes. He found that the largest single vocabulary was 2,812 words. The combined vocabulary of all the children contained 4,532 different words.

Doctor Ayres<sup>2</sup> found that two thousand letters employed an aggregate vocabulary of only two thousand and one different words. Cook and O'Shea<sup>3</sup> studied the personal letters written by thirteen adults containing two hundred thousand words and found the aggregate vocabulary to consist of five thousand two hundred different words.

Other similar investigations have shown the same gen-

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<sup>1</sup> *Concrete Examination of the Material of English Spelling.*

<sup>2</sup> *The Spelling Vocabularies of Personal and Business Letters.*

<sup>3</sup> *The Child and His Spelling.*

eral results. Doctor Ayres combined the results from a series of such studies and therefrom compiled a list of the one thousand *commonest* words.<sup>1</sup> This list should surely be mastered before finishing the elementary school. The list follows, the words being printed in the *order of the frequency of their use* (except that in some cases certain words were used the same number of times as other words):

the	which	out	thank
and	dear	them	do
of	from	him	after
to	are	more	than
I	all	about	sir
a	me	no	last
in	so	please	house
that	one	week	just
you	if	night	over
for	they	their	then
it	had	other	work
was	has	up	day
is	very	our	here
will	were	good	said
as	been	say	only
have	would	could	well
not	she	who	am
with	or	may	these
be	there	letter	tell
your	her	make	even
at	an	write	made
we	when	thing	know
on	time	think	year
he	go	should	before
by	some	truly	long
but	any	now	sincerely
my	can	its	shall
this	what	two	sent
his	send	take	us

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<sup>1</sup> *The One Thousand Commonest Words.*

give	girl	hour	dress
Mr. <sup>c</sup>	also	children	early
like	where	don't	either
enclose	while	four	end
next	did	between	except
want	little	bill	farther
hope	look	certain	heard
love	respectfully	copy	March
men	afternoon	deal	person
old	Miss	director	rather
every	those	might	water
find	too	move	written
most	man	rain	April
such	own	small	Christmas
to-day	receive	summer	country
must	soon	together	fact
way	once	against	herself
first	street	clean	immediate
new	ask	decide	marriage
seem	down	issue	May
morning	yet	Mrs.	provision
school	see	near	reason
great	since	prompt	slide
wish	cannot	question	story
home	help	ring	unfortunate
feel	away	sit	arrange
glad	course	stamp	awful
never	through	turn	complete
three	call	winter	fire
much	meet	busy	forget
how	people	folks	gave
until	another	happy	kill
many	number	lake	mere
put	place	maybe	nearly
get	Sunday	obtain	neither
into	use	pass	noon
let	church	ran	past
yesterday	nice	study	service
come	sure	become	unless
ever	anything	December	aunt

ball	table	various	plant
character	true	anyway	popular
full	already	band	post
further	appreciate	boat	pretty
learn	body	dark	kind
often	clear	difference	oblige
principle	cover	door	nothing
ride	driven	enter	off
second	fair	face	believe
sister	getting	husband	boy
size	got	importance	city
state	instead	lead	found
thus	pleasant	light	pay
yes	price	offer	to-morrow
afraid	relative	pleasure	doctor
annual	rule	prepare	five
automobile	son	refer	o'clock
coming	song	represent	read
date	sudden	rest	back
year	throw	river	enough
law	war	scene	fine
name	west	special	order
running	world	stand	bed
separate	accept	stop	cold
sold	alone	trust	live
told	arrive	try	mail
although	began	walk	few
among	carry	warm	hear
association	distribute	weather	child
close	earliest	condition	mother
club	effort	different	return
dollar	hat	else	same
evidence	justice	especially	almost
form	lose	game	because
himself	lot	grant	big
intend	material	indeed	Monday
June	nor	liberty	month
list	sometimes	necessary	start
public	struck	object	always
station	unable	paid	both

cordially	party	feet	meant
expect	word	itself	seven
mean	madam	several	address
quite	six	brought	charge
Saturday	ten	everything	family
again	why	run	finish
Friday	perhaps	took	hot
something	answer	better	known
talk	half	lost	least
though	keep	possible	plan
office	life	September	saw
Tuesday	ago	sick	seen
best	business	visit	whole
came	does	went	whose
says	each	act	action
car	eight	begin	change
ground	knew	desire	court
room	picture	eat	follow
thought	show	guess	matter
under	build	hard	cost
board	care	line	February
far	eye	mind	lady
nine	gentleman	October	part
without	head	poor	reply
arrest	left	remember	spend
trip	whether	Wednesday	attend
cent	interest	women	case
right	January	wonder	fall
side	present	conference	however
Thursday	teacher	died	July
friend	tire	glass	report
bad	upon	held	speak
late	young	less	vote
money	done	understand	wife
need	high	along	bring
still	sorry	August	company
book	train	evening	cut
hand	whom	father	member
mile	broke	forenoon	November
paper	during	large	open

reach	fell	hurt	stood
regard	fourth	led	suppose
woman	grand	low	view
according	hold	mention	white
prison	inform	promise	able
road	lay	result	above
section	leave	select	assure
subject	length	serve	auto
success	loss	soap	baby
supply	mine	suggest	catch
system	ought	teach	duty
tax	outside	terrible	education
allow	pair	therefore	extra
amount	probably	uncle	fail
appoint	ready	absence	foot
expense	real	article	forward
felt	request	became	goes
fifth	spring	behind	government
fill	stay	brother	impossible
front	stole	dead	include
information	themselves	delay	income
miss	third	drill	increase
none	top	effect	inside
press	toward	employ	investigate
red	watch	entire	judgment
salary	wrote	entrance	navy
secure	account	extreme	omit
set	across	fix	opinion
tenth	around	forty	police
ticket	card	general	position
usual	cause	objection	power
wait	death	perfect	prefer
worth	divide	period	proper
beside	doubt	rapid	push
bought	drown	region	raise
built	easy	remain	really
buy	escape	repair	round
carried	free	sail	shut
destroy	gone	search	to-night
direction	happen	short	total

trouble	wonderful	circular	contract
aboard	add	class	crowd
air	affair	clothing	dash
appear	attempt	collect	debate
beautiful	black	colonies	decision
burn	claim	combination	degree
capture	common	comfort	department
career	convenient	complaint	diamond
check	convention	consideration	difficulty
contain	daughter	disappoint	discussion
deep	declare	distinguish	district
direct	estate	due	elaborate
dozen	event	feature	emergency
east	factory	field	empire
elect	favor	firm	engine
election	God	human	enjoy
engage	illustrate	manner	entertain
express	injure	neighbor	entitle
final	lesson	progress	estimate
finally	minute	recent	experience
gold	news	sea	fight
horse	political	session	figure
motion	prove	statement	file
north	rate	suit	flight
occupy	soft	theater	flower
preliminary	suffer	visitor	foreign
principal	surprise	agreement	guest
proceed	tree	alike	history
provide	wear	allege	important
refuse	within	application	imprison
relief	yard	argument	improvement
retire	age	arrangement	jail
shed	athletic	beg	newspaper
sight	attention	chief	organization
south	avenue	cities	personal
spent	bear	clerk	piece
stopped	begun	command	play
vacation	belong	committee	primary
weigh	camp	concern	receipt
wind	cast	consider	responsible

restrain	born	land	publication
royal	box	ledge	publish
secretary	bridge	local	purpose
spell	celebration	machine	race
stone	center	majority	railroad
summon	century	mayor	recommend
testimony	chain	measure	recover
track	circumstance	mountain	reference
travel	citizen	national	senate
victim	connection	official	serious
accident	convict	organize	ship
addition	develop	page	steamer
adopt	examination	particular	support
army	famous	point	term
assist	fortune	population	town
associate	height	pound	treasure
await	honor	practical	vessel
beginning	ice	president	volume
block	inspect	print	wire
blow	invitation	private	witness
blue	judge	property	wreck

The "one hundred demons."—Doctor Jones calls the following one hundred words the "One Hundred Spelling Demons of the English Language" because he found that they were the words oftenest misspelled in all grades of the elementary school. These words should receive especial attention :

always	dear	many	two
among	doctor	meant	too
any	every	making	trouble
again	easy	minute	tear
ache	early	much	tired
answer	enough	none	though
business	friend	often	through
been	February	once	they
built	forty	piece	to-night
busy	grammar	ready	truly
believe	guess	raise	used

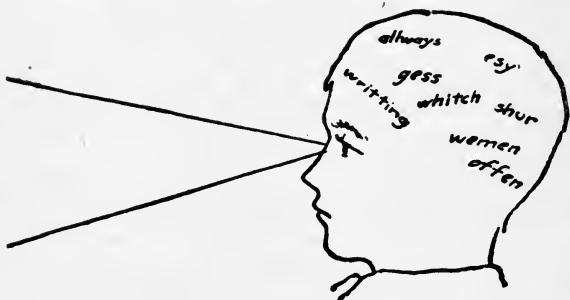
beginning	hoarse	road	very
blue	half	straight	which
break	having	sugar	where
buy	hour	shoes	women
can't	heard	said	write
country	here	says	writing
could	hear	sure	would
color	instead	since	Wednesday
choose	just	some	wear
coming	knew	seems	whether
cough	know	separate	whole
don't	laid	their	won't
does	lose	there	wrote
done	loose	Tuesday	week

The "arch-demons" of this list were found by Doctor Jones to be *which*, misspelled 321 times in the 7,500 themes; *their* and *there*, misspelled an aggregate of 612 times for the two; and *separate*, misspelled 283 times.

*Attempting to learn these:—*

*While misspelling these:—*

spectacle  
dieresis  
dulcimer  
gossamer  
intrigue  
obeisance  
buoyant  
rendezvous  
aggrieve  
superlative  
romantic  
obstinate



(After Studebaker—*Des Moines Annual Report, 1915.*)

An examination of the written work of pupils in grades four to eight in the Des Moines schools showed that all but one of these one hundred words were used in the written

vocabularies of fourth-grade children. Yet seventy-nine per cent. of the fourth-grade pupils misspelled more than twenty of the words, and forty-one per cent. of all pupils in grades four to eight inclusive misspelled twenty or more of the one hundred words. Approximately the same record was made in eighteen other cities. Surely Assistant Superintendent Studebaker<sup>1</sup> is right when he concludes, "in the light of these facts it certainly is not advisable . . . to use time in an effort to teach children in the respective grades the spelling of such words as the following, selected from the spelling book in use:"

FOURTH GRADE	FIFTH GRADE	SIXTH GRADE
sighing	salubrious	potential
cherub	infectious	ptarmigan
hyena	concertina	scullion
barbarous	ludicrous	avaricious
luscious	spectral	predecessor
damask	plenteous	bituminous
verdure	intrigue	apologetic
cylinder	calumet	dissyllable

SEVENTH GRADE	EIGHTH GRADE
rendezvous	phthisicky
chapeau	magisterial
ancestral	ichthyology
intercessor	convalesce
obeisance	abstemious
dulcimer	demoniacal
dieresis	saccharine

**Personal word lists.**—It is not possible, of course, under ordinary school conditions to discover the writing vocabulary of each child and suit the spelling material to it. We shall be on safe ground, however, to omit hundreds, or

<sup>1</sup> See *Des Moines, Iowa, Report, 1915*, for an excellent study of the teaching of spelling.

even thousands, of the most unusual, technical and difficult words of the average spelling book. The time thus gained should be spent on making sure of the *commonest* words, and especially in making sure of the *demon* words which are most responsible for spelling errors.

Added to these "minimum lists" should be a "personal list" of new words to be learned as the vocabulary grows and also a list of words found misspelled in any written work, no matter what the subject. Such a method of selecting spelling material would beyond question add much to efficiency in spelling, and would save a considerable amount of time for other purposes.

### *Organization and Presentation—The Teaching of Spelling*

In planning the teaching of spelling the principle is to be held in mind that spelling is to deal with the words the child *writes*, and not the ones he is able to read, or even able to use in oral speech. This would mean that no spelling (except in the form of phonograms connected with reading) be taught in the first grade, for the simple reason that the child has not yet begun to write. On the same principle, spelling will constantly be correlated with written language work, and *will advance as rapidly as the use of new words* in written lessons progresses.

**The selection of words to be taught by grades.**—It is of course impossible to give any standard list of words that should be taught in all schools grade by grade. For, as implied in the foregoing discussion, the words to be learned will be determined by the primers and readers used, the nature of the language work, the text-books in other subjects, and the home, community and play interests of the pupils.

By the end of the fourth grade the spelling of all words in the list of one hundred "demons" should have been taught, and about seven hundred of the list of the one thousand commonest words. In addition, any words used by the child in his written work, but not included in these lists, should be mastered. By the end of the eighth grade, the entire list of the one thousand commonest words should be so firmly fixed that none is misspelled, and a corresponding extension made in line with the individual writing vocabulary. By the time this stage is reached all of the one hundred "demons" should also have been so thoroughly vanquished as to give no further trouble.

Jones found that of the 4,532 words which constituted the combined vocabulary used in all grades by 1,050 children, the following number of words were used by two per cent. of the children in the respective grades:

Second grade.....	1,927
Third grade—new words added to second grade list..	469
Fourth grade—new words added to previous lists....	442
Fifth grade—new words added to previous lists....	432
Sixth grade—new words added to previous lists....	425
Seventh grade—new words added to previous lists...	419
Eighth grade—new words added to previous lists....	418
Total.....	4,532

**Emphasizing the hard words.**—Not all words are equally hard to spell. Some, once learned, are secure from that time on. Others which seem to be learned are soon forgotten and have to be relearned time and again. The only way to be sure about the difficulty of a word is to observe the trouble it gives the child in learning it. A word that looks hard to the teacher may not prove so to the class, while certain words that look easy give the class no end of trouble.

These facts suggest that not all words should be given the

same amount of study and drill. Not a few teachers require all the words of the spelling lesson to be "written ten times," or "studied over twenty times" by the pupils. This method puts just as much study on easy words as hard words. The result is what is called "over-learning" of the easy words.

Children must be taught *how to study* spelling. If they are merely told to "take the next twenty words" from the spelling book we may be sure they will not finally make good spellers. They need to learn how to weigh the difficulty of words, to notice the difficult part of hard words, and to drill themselves on words known to be hard.

**Personal and class lists of hard words.**—Each pupil should have a small note-book to be used for spelling only. One section of this should be given to the keeping of a list of all words misspelled either in the regular spelling lessons or in any other written work of the school. The teacher will need to keep some oversight of these lists to make sure that the missed words are put down, and that they are spelled correctly when recorded. These personal lists should form the basis of frequent reviews and dictation work.

The teacher should also keep a class list of misspelled words found in the written work of all lessons, and use these for occasional lessons for the entire class. There is little danger of putting too much stress on the misspelled words. These are the "demons" that need to be overcome.

One sixth-grade child made the following personal list during one school year.<sup>1</sup> Very few of the words were in the sixth-grade list of her spelling book, hence the only way to learn them was by outside attention and drill:

tiger	Latin	thickness	trolley
vegetables	accident	heavier	permission
giant	cakes	Florida	spaces
basin	general	gravel	college

<sup>1</sup> Page 27, *Des Moines Report*, 1915.

receive	harp	layers	mineral
possible	situated	manual	tobacco
nickel	visions	memorizing	exports
pistol	fiercely	poetry	leather
medicine	enemies	memory	always
dragged	spoil	quotation	products
amuse	hundred	correcting	copper
dwellers	district	supplying	concerned
rope	loaned	series	sympathy
imagined	value	paragraph	agent
fancied	insane	vivid	walnut
forge	Wales	recognize	insurance
pincers	Christians	selection	tallest
elder	sixteen	chapter	sailors
struggle	bade	bridge	block
Greek	England	capital	language
prevent	artist	comparisons	supplement
kingdom	relief	tread	sponge
realm	tightly	example	scissors
executed	period	jewels	

**How fast to teach the spelling of new words.**—In general there is nothing gained by teaching the spelling of new words without also teaching their meaning and use. If a word when learned goes at once into use, it not only extends the vocabulary by so much, but its frequent use will also tend to fix the correct spelling.

Most teachers probably teach new words too rapidly. From *two or three* to *five or six* a day will keep up with the needs of any grade, and will by the end of the eighth grade give the child some six thousand words in his spelling vocabulary. If but a few new words are presented in each lesson time is then left for drill and review on words previously learned, and for teaching the use of the words in sentences.

**How to teach the spelling of new words.**—There is no one "method" that should be used to the exclusion of all

others in teaching spelling. Many devices must be invented by the teacher to secure *drill and review with interest*. Principal H. C. Pearson, of the Horace Mann School, suggests the following as one good method:<sup>1</sup>

"1. Write one of the words on the blackboard and teach it in accordance with the following plan. Then write the next word, teaching it in the same, and so on with the rest of the words:

"(a) While writing the word, pronounce it distinctly.

"(b) Develop the meaning orally by using the word in a sentence and by defining it.

"(c) Divide word into syllables. Call on pupils to spell orally by syllables. Have the word spelled in concert, and individually by poor spellers.

"(d) Have pupils indicate the parts of the word that present difficulties, or whether the word contains parts they already know. Teacher should also call attention to peculiarities, such as silent letters, *ei* and *ie* combinations, etc.

"(e) Have pupils write the word once, twice or three times, pronouncing it softly or spelling silently as they write it. It would be well to have given a new sentence using the word before they do this. This is to emphasize strongly the meaning of the word again just before the child writes it.

"(f) Allow the class a moment in which to look at the word again and then have them close eyes and try to visualize it, or use any other device of a similar nature.

"2. After the various words of the day's lesson have been studied in this way, allow a few minutes for studying the whole lesson, suggesting that each pupil emphasize the words he thinks he doesn't know. This time should be limited so that each pupil will attend vigorously and attentively.

"(a) Next have the whole column reviewed orally. This may be done either by the class as a whole or by individual pupils, or both. If the former, have children first spell each word from the board and then, turning from the board, spell it again silently. Then let them verify results by consulting the board. If the latter, have pupils work on the words that are most difficult for them."

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<sup>1</sup> Quoted, page 28, *Des Moines Report*, 1915.

**Oral and written spelling.**—While spelling ability is finally needed only in written form it may well be that the oral method has certain valuable uses. Particularly as the child is beginning to learn the spelling of words the oral drill should be employed, carrying this oral ability over as rapidly as possible to writing. Oral practise may also be used at any other stage to secure additional drill, lend variety, or furnish a device for competitive tests, etc. The main dependence, however, must be placed in written spelling. For, while it is probable that a given number of words can be *learned* faster by the oral than by the written method, they will not be *remembered* so well, nor *used* with as much accuracy when spontaneously employed in writing.

**Column and context spelling.**—It has been urged that spelling shall be taught chiefly in connection with the use of words in context. This does not mean, however, that columns of words should never be assembled and drilled upon. They should be. But column spelling should not become the rule. For it is one thing to be able to spell a word in a column drill, and quite another thing to be able to spell it when writing, with the attention centered on the thought rather than on spelling. It is to be remembered in conducting spelling by dictated sentences that the words employed for spelling may be used almost as formally as if in columns. It is evident that no small part of the practise should be in connection with the pupil's own composition. The rule here is to bring the spelling practise as nearly as possible to the normal conditions under which spelling ability is required.

**Drill on difficult elements.**—If a large number of misspellings of the same word are collected it will be seen that a very large proportion of the errors center about some *one* difficult letter or syllable. Once discovered, this is the part of the word that should receive the drill. In drilling on the

word it is well to have it written on the board with the hard part in colored crayon, or underlined to attract the attention.

**Spelling rules.**—A great diversity of practise exists concerning the teaching of spelling rules. Some spelling books omit all rules, while others give as many as eighteen. Cook and O'Shea made a somewhat careful study of the effect of learning spelling rules on college freshmen and high-school students.<sup>1</sup> They conclude that, with this grade of students, rules have little or no relation to spelling ability. Much less effect would they have on children in the grades, who have less power to apply the rule. In the training of good spellers, *the chief dependence must be placed on making spelling automatic by well-directed practise.*

**Mastering the lesson.**—There are four factors which combine to make the complete spelling lesson:<sup>2</sup> (1) *Supervised study*, in which the teacher goes over the words with the class, analyzes their difficulties, has the words visualized, spelled orally and in writing, and perhaps used in sentences. (2) *Independent study*, in which the children drill themselves on the words, visualizing them, repeating the letters, and writing the words. (3) *Testing results*, not only of the present day's study, but of review words. (4) *Correction of errors*, or making a personal list of incorrect words and drilling upon the correct forms. Only when these four processes are properly combined is spelling well taught.

**General spelling contests.**—The oral spelling contest between schools has for generations been looked upon with favor, not only as a competitive diversion, but as a means of making good spellers. As a diversion it is a success; as a means of teaching spelling it is a failure. First of all the spelling contest appeals only to naturally good spellers. The

<sup>1</sup> *The Child and His Spelling*, page 10.

<sup>2</sup> Adapted from Nettie Sawyer Funk, *Automatic Speller*, p. viii.

poor speller knows he has no chance in the contest, hence he does not greatly exert himself and expects low rank. The one who needs the study and drill does not get it.

Further, the words usually studied and drilled upon for the spelling contest are not selected with reference to their practical use in the child's vocabulary. Far from it; they are more usually selected as a sporting proposition from unusually difficult and rare words that will test merely the verbal memory. For example, it has been found that the words *which*, *there* and *their* are the words oftenest misspelled of any in the language by the pupils of the first eight grades. But who ever heard of using these words in a spelling contest!

The *competitive motive* is a good incentive in the learning of spelling, but it can be used to better advantage than in the usual oral contest.

### QUESTIONS AND PROBLEMS

1. How, on the whole, are your children as spellers? Have you some who spell well in class but miss many words in writing? Have you those who miss the same words over time after time? If you meet with these difficulties, would it be better to devote your attention to their cure rather than to teaching lists of new words?

2. Do you find many words in your speller lists which are not in the child's writing vocabulary? If so, would it be better to omit some of these and make sure of the common words?

3. Try your school, grade by grade with the lists of words on page 168. Remember that to average with good schools, they should be able to spell seven out of the ten correctly. Test them also with the "one hundred demons" and the one thousand commonest words.

4. How do you teach *new words* to children in the earlier grades? Compare with the directions given on page 183 and see whether you can improve your method.

5. What is your method of curing the repeated misspelling of the same words in manuscripts? Do you make the child correct the misspelling, or do you merely check it and trust the child to look the

word up? Do you have the children keep lists of their misspelled words and drill on them? Do you keep a list from the manuscripts you read? Do you make *all* lessons spelling lessons?

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## CHAPTER XII

### LANGUAGE

**T**HE most commonly applied test of one's education and intelligence is his command of his mother tongue. Let his speech be uncouth or ineffective and no amount of learning will enable him to convey an impression of culture. On the other hand, well-chosen, effective speech is everywhere a personal asset no matter what the occupation or status in life.

#### *Aims Sought Through Language Training*

Two great aims express the results we should seek in language teaching:

1. *Ease, fluency, enjoyment and accuracy* in the use of oral speech.
2. *Ease, effectiveness, enjoyment and accuracy* in the use of written speech.

To the attainment of these ends, certain *knowledge, attitudes* and *skills* are required.

**Knowledge required.**—The child's earlier beginnings in language are all made (1) through the impulse leading *to speech* and (2) through the impulse leading *to imitation*. It is natural and necessary for the child to develop speech. It is just as natural and necessary that he shall begin by copying whatever speech he hears, whether it be English or Choctaw, whether it be the correct diction of the classical scholar or the slang of the gutter-snipe. Imitation remains throughout life an important factor in developing good speech, yet certain knowledge becomes necessary as a guide.

The child should be trained in such knowledge as will lead to the following results:

1. Broadening and enriching the vocabulary.
2. Ability to recognize correct and incorrect forms of speech.
3. Familiarity with the standards of good articulation and enunciation.
4. An understanding of the common faults of expression and how they are to be remedied.
5. Knowledge of how to organize thought for effective speaking or writing.
6. Knowledge of how to assemble material in written paragraphs.
7. Knowledge of the use of capital letters and punctuation marks.
8. Knowledge of correct grammatical usages.
9. Knowledge of the forms of business and social correspondence.

**Attitudes to be developed.**—Much of the slovenly, careless speech constantly to be heard among our people is to be accounted for by lack of interest in good speech. Most persons *know how* to speak and write much better than they *do* these things. It is largely a question of standards, a matter of desiring to command beautiful and effective speech.

Training in language should then first of all lead children to desire to become good speakers and writers of their thoughts. This does not mean that they must become orators and authors, but that they shall have pride in good expression, though it may relate to the humblest affairs. They must come to have a satisfaction in good articulation and enunciation, and to feel humiliation over lack of ability in these things. Their standards must be so developed that they will not permit themselves unskilful utterance, incorrect pronunciations or errors in grammar. Further, good

standards must come to be *desired from within*, and not seem to be *imposed* from without.

The course in language training should lead children to enjoy written expression, instead of finding it a task and a bug-bear as so many do. If the outcome of language training is a distaste for all written work, if it makes the pupil dread the writing of a story, a paper or a letter, then the work has in large degree been a failure, no matter what the technical knowledge acquired. It is a sorry end to one's training which gives him the mechanics of composition, and leaves him without inspiration or impulse to express himself in writing.

**Skills sought.**—As already implied the success of language teaching can only be measured by the extent to which it affects the skill displayed by the children in their daily oral and written speech. The language teacher should therefore every now and then ask himself how far his instruction is *actually transforming the speech* of his pupils.

The teacher of language should aim at such skills as the following:

**Oral skills.** 1. Facility, readiness, fluency. All stumbling speech, poor articulation, or other handicaps of expression should be given definite treatment—individual treatment if necessary.

2. A pleasing voice and clear enunciation. Shrill raucous tones, throaty utterance, or other such mannerisms should be removed. Many persons also have an unpleasant laugh or facial habit which, with a little attention, could be corrected.

3. Clear concise expression in simple language. Every one has noticed the difference in clearness of meaning shown by different speakers, teachers or conversationalists. Such differences arise in part from differences in clearness of

thinking, and in part from differences in ability in expression. Early training has much to do with this skill.

4. Ability to think while speaking. There are plenty of people who can speak if they are not required to think at the same time, or who can think if they are not required to speak while thinking. But one needs to be able to unfold an idea while expressing it. It is this power that makes the good conversationalist, the strong public speaker, the skilful lawyer or debater. The language training of children should have this aim clearly in mind, and give much practise to insure its attainment.

*Skill in writing.* 1. Ease, readiness, effectiveness. There are many who possess fluency in oral speech, but whose expression becomes labored and stiff when they attempt to write. Their brain pathways seem to be sufficiently open between their thought centers and speaking centers, but not between their thought centers and writing centers. The only way to get brain pathways open is by using them.

2. Orderly arrangement of material. Skill should develop from month to month in organizing the points under a single topic and arranging them in connected order to form a paragraph. As age and development increase the power should grow to use a series of paragraphs to form a longer discussion.

3. Use of correct language forms. Skill in writing should so develop that the child naturally and habitually uses as good grammar as he *knows*. This is to say that carelessness and incorrect forms coming from bad speech habits should gradually be weeded out, so that the written speech may rise to the level of the child's knowledge mastery of his mother tongue. This will mean to eliminate the "I didn't think" errors.

4. Automatic and habitually correct use of capitals, punc-

tuation marks and spelling. One boy, when chided by his teacher for being late with his composition, responded with the hopeful information that he had it all written and only needed time to go through and punctuate it! It is to be feared that all too many pupils learn and handle the mechanics of composition in the same way. The aim here must be to make the use of capitals, periods, commas, etc., so familiar that they drop into place almost without thought or attention. This, it is needless to say, will require much drill and practise.

*Skill in interpretation.* Imagination, like memory or observation, responds readily to stimulus and training. Language instruction, equally with reading, should strengthen this picturing, vivifying power of the mind. To *recreate* the characters and action of the story, to *become* the personage represented in dramatizing, to *make real* in one's own mind the situations and persons of the original story written or told—these are all training for the imagination.

### *Material for Language Instruction*

We shall find help in selecting language material by remembering that speech naturally arises out of the *desire to express* some interest, need or problem immediately connected with our experience. Language normally is never for a moment separate from the things we think, the things we plan, or the things we do. The material for the child's instruction in language should in similar fashion originate in precisely the same way—it should grow out of his immediate interests and activities. The great problem is *to make the language instruction take hold of the real, every-day speech of the child and thus grow into habit*. All too much of the teaching of the best of us fails to carry across to the point where it produces actual results in applied skill.

More specifically, the following are some of the more important sources from which language material may be drawn:

**1. Activities in which the child is engaged.**—The center of interest and the most powerful motive to expression with children are found in their immediate activities. Their plays and games, their little tasks and duties at home, the picnic or excursion, the raising of their prize poultry, the producing of their club acre of corn, their canning club work—all these they like to talk about and write about. In them one of the strongest language motives is found. And *unless language springs from some inner motive that prompts expression*, the speech will be artificial and formal, and little good come from the training.

The same principle holds with reference to the activities connected with the child's other studies. They are all fruitful in language material. The lesson in geography or history, the field excursion in nature study, the experiment in physiology, a community enterprise in civics—these are the very heart of the language material. They supply thoughts calling for expression and make the expression worth while because it attaches to genuine material instead of to formal "exercises."

**2. Interest in persons and objects.**—Intimately connected with the child's activities are the persons and objects of his immediate environment. Indeed, most of his activities grow out of these relations. The child's home and family; his playmates; days and seasons; birds and bees and animal playmates, trees and flowers and growing crops, all are sources of the richest language material.

**3. Stories.**—The immediate activities and environment of the child do not, however, supply a broad enough basis for language work. Experience needs to be broadened, ideas enriched and imagination trained to work with material out-

side the range of direct contacts and associations. Stories quicken the sympathies, cultivate a knowledge of desirable and undesirable personal qualities, develop the sense of humor, store the memory with interesting material, and supply good models of speech for imitation. The stories told the children are more real than those read, at least in all the earlier grades, and will be more productive of spontaneous expression.

The story will serve as the natural and effective basis of correlation between language and reading. These two aspects of the study of the mother tongue should go hand in hand, each supplementing and reenforcing the other. Stories told as the basis for the reading lesson may well be used for language work, or vice versa. So closely are these two lines correlated in the lower grades of some of our best schools that they are hardly separable. On the whole, however, the course in language will need to add a considerable number of stories to those already listed for the reading work. Yet care must be taken not to give the child more stories than he can assimilate. Children enjoy having favorite stories repeated, and it is far better to repeat good stories until they are well mastered than to tell so many that the child but partially grasps them.

**4. Pictures.**—Children like to study pictures. Pictures speak a language that all can understand. They are worth while in themselves as educational material, and they afford an inexhaustible source of stimuli for expression, both oral and written. A part of the equipment of every school should be a supply of pictures representing masterpieces adapted to the respective grades. These can be obtained for a few cents each in excellent copies.

**5. Letter-writing.**—This is one of the most fruitful sources of language material. Furthermore, it is one of the most fruitful lines of language training. A very small pro-

portion of our pupils will become authors, journalists, etc.; but all of them should become writers of interesting and attractive social letters to friends and family, and of clear and concise business letters to those with whom they have dealings.

The great thing in the use of this material is to make the situations *real*. For only this will call forth spontaneous expression. Let actual letters be written to friends, relatives, or business houses, and let them *be sent*. Only in this way will the real language power of the child develop through letter-writing. It is well also to bring samples of good letters, or printed collections of letters, before the class for study.

**6. Future plans and interests.**—While children live very largely in an *actual present*, they also build for themselves ideal presents and imaginary futures. Many of these dreams are too personal and intimate for the child to be willing to express them to a world of whose sympathy and understanding he is not sure. On the other hand, certain of these mental creations he is eager to express. The trips he would like to take, the places he would like to visit, the vocations he would like to pursue, the adventures he would like to have, are all very real to his imagination and come ready to his tongue or pen.

**7. Errors common to every-day speech.**—While language teaching must in the main be constructive and present a positive plan of action, it must, nevertheless, not fail to deal with errors as they arise. Teachers should be alert for speech errors, and keep a note-book record of them for constant reference. Children should occasionally be asked to tell or write for the teacher, errors which they have caught themselves making. Drill should at once follow to eliminate such errors. Eternal vigilance on the part of all concerned is the price that must be paid for good speech.

Especially should care be used to eliminate the grosser forms of slang which constitute so large an element in the speech of many persons. Undoubtedly there are slang words or phrases so expressive and so unoffensive that they deserve a permanent place in our speech. But no small part of the slang used has its rise in mental laziness or sheer poverty of vocabulary. It is easier to say that a certain thing is "swell," or "great," or "fierce" than to find suitable words in which to express the shade of meaning intended. In fact such speech *saves intending* any definite meaning whatever, and so leads to loose and inaccurate thought.

No doubt another motive back of the use of slang is the fact that in certain social classes it is "quite the thing" to use the jargon of the group. While language training should not expect nor attempt to make verbal purists of our children it should save them from the evil effects of the cruder forms of the slang of the day.

**Grammar.**—There can be no doubt that in the past our children have been taught too much technical grammar and too little of the expression side of speech. A decided change in emphasis has taken place in recent years, but even yet many schools introduce difficult grammar material far too early. Grammar deals with the formal, the logic, side of language. It supplies the rigid rules by which to test the linguistic correctness of one's speech. It gives a knowledge of the structure of the language and makes one more fully understand his mother tongue.

Grammar is a necessary part of the study of language, but as a formal separate branch it *should not come earlier than the eighth grade*. Even then grammar should consist only of the practically essential phases of the subject, leaving the more technical aspects for the high school.

**First-grade language material.**—The language work of the first grade will be almost if not quite all oral. The most

natural beginning is with the play and home interests. For example, the teacher asks such questions as the following: How many of the class played on Saturday? What did you play, John? Who was captain? What did you do? The child's oral responses, put together, make a story as follows:<sup>1</sup>

Saturday I played soldier with my brothers.  
My big brother was captain.  
The baby carried the flag.  
I beat the drum.

Questions on another interest may yield the following:

I have a large doll.  
Her name is Arabella.  
She has light hair.  
She has a little bed.  
She has eyes that go to sleep.

*Stories and poems.* The stories listed for the various grades in the chapter on Reading will furnish an excellent basis for language work also, and should be used for this purpose. After the story has been told the children, the teacher should ask questions about the characters, or the incidents, etc. The children are required to answer in full sentences. The simpler stories may be dramatized. As the child gains in language ability, he is asked to tell the stories after hearing them. A few stories adapted to first-grade language work follow:

*The Little Gray Pony*, Lindsay  
*The Dog and His Shadow*, Æsop  
*Wynken, Blynken and Nod*, Field  
*The Shet-up Pony*, Story-tell-Lib  
*Finding the Baby Moses*, the Bible  
*London Bridge*, Mother Goose  
*The Tree*, Björnson  
*Hickory, Dickory, Dock*, Mother Goose

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<sup>1</sup> See *Massachusetts Bulletin* 67, Board of Education.

*Pictures.* Such pictures as those of the following list are adapted to first-grade children. In studying pictures the teacher should aid the children in understanding them, but be careful not to make the work critical or technical in any degree. Let the children just enjoy the pictures and come to love them. They will be ready to tell the "story" told in the picture, giving names to the children or animal pets, etc., shown in it. The pupils may also be asked to suggest a name for the picture. This will help to bring out the thought it contains, and will give material for language instruction:

*The Brothers*, Vogel  
*Squirrels*, Landseer  
*Feeding the Birds*, Millet  
*Madonna of the Chair*, Raphael  
*Interior of the Cottage*, Israels  
*The Knitting Lesson*, Millet  
*Girl with a Cat*, Holker  
*Feeding the Sheep*, Jacque  
*First Steps*, Millet  
*Bambina*, Robbia

*Errors to be corrected.* This list must, of course, grow out of the children's speech as heard by the teacher. The best time to correct an error is at the time it is made. If the child is in the midst of a story, however, he should *not* be interrupted. Fluency and spontaneity are worth more than correctness at this stage. The error can be corrected when the story is finished. Some of the errors to be expected are:

I seen him when he done it.  
I run all the way to school.  
Him and me.  
Gimme that there book.  
John he said it was me.  
'Tain't so, I hain't got it.  
Once they was —.

**Second-grade language material.**—Conversation based on topics of interest in the home or at school should be an important part of the second-grade work. The aim at this point is to encourage ready expression of familiar thought and feeling. The child has now gained more independence, and should be able to give connected series of sentences, or tell a "story" of which the following is a fair sample:

I have a little black dog.  
His name is Bobs.  
Bobs likes to play tricks.  
He runs off with my shoes.  
He came into the house with dirty feet.  
My mother drove him out.

Care should be emphasized at this stage to secure complete sentence expression. For variety, but without giving the names, the exclamation and question type of sentence should be encouraged.

*Stories and poems.* The child should during this year be gaining in power to notice the sequence of events in a story and reproduce the order and more important details in his reproduction of it. The teacher may if necessary offer such suggestions as, "What came first?"—"And then?"—"And next?"

The following stories may be used to supplement those given in the reading list:

*Wee Willie Winkie*, Kipling  
*Why the Sea is Salt*, Bryant  
*One, Two, Three*, Bunner  
*Seven Times One*, Ingelow  
*The New Year's Greeting*, Lowell  
*The Dog and His Image*, Æsop  
*The Boy and the Wolf*, Æsop  
*The Wonderful World*, Rands  
*Lady Moon*, Houghton  
*The Boy and the Frogs*, Æsop

The following stories or others of the same grade should be dramatized:

*The Elves and the Shoemaker*  
*David and Jonathan*  
*One Eye, Two Eyes, Three Eyes*

*A Tardy Thanksgiving*  
*The Valiant Mr. Blackbird*  
*The Ugly Duckling*  
*Parts of Hiawatha*

*Pictures.* Continue the study of pictures such as the following:

*Brittany Sheep, Bonheur*  
*Pilgrims Going to Church, Boughton*  
*The Arrival of the Shepherds, LeRolle*  
*The Gleaners, Millet*  
*St. John and the Lamb, Murillo*  
*The Little Scholar, Bouguereau*  
*A Helping Hand, Renouf*  
*I Hear a Voice, Earl*  
*Wake Up, Barber*  
*Children of the Shell, Murillo*

*Errors to be corrected.* The time has not yet arrived for giving the grammatical reasons for corrections. Stress the correct forms and try to awaken a pride in their use. Watch for such errors as the following:

We et it up.  
 I ain't got no pencil ner nothing.  
 Ain't they any school to-day?  
 I knowed it was broke.  
 They was five of us.  
 He would of tore it.  
 I'm thinkin' you was afraid.

*Written expression.* Written language should begin with the simple sentences which have been used in oral expression. From the first the child should learn to begin a statement with a capital and end it with a period. He should also

learn to capitalize *I* and *O* and the names of persons and places, the days of the week and the months, and put a question mark after a question. He should be taught to write complete sentences.

Such abbreviations as are frequently used in written work should be taught, as *Mr.*, *Mrs.*, *St.*, *Ave.*, and the names of the *months*. It is now time also to teach several of the commoner contractions, as *I'll*, *I'm*, *don't*, *isn't*, *aren't*, *haven't*, *hasn't*. The child should know his own address, and be able to write it correctly.

**Third- and fourth-grade language material.**—The general plan of determining the material for the first two grades is to be continued. Interesting, wide-awake thought must be compelled as the basis for every lesson. Sharp attention must be secured for abundant drills and reviews on all formal or mechanical phases of the work. It is wholly useless to try to proceed without ideas in the child's mind pressing for expression; it is equally useless to try to proceed without giving opportunity for much spontaneous expression, both oral and written.

As the child's home, school, community and occupational interests broaden, the situations suitable for language instruction to be found in them become endless. The study of local geography, neighborhood civics, hygiene, biography and history, furnishes rich opportunities for correlating language work with the other school subjects. The great problem now is to make every lesson in some degree a language lesson, so that the pupil will realize that language standards and facts are *not just for the language class*, but for constant use.

*Stories and poems.* Stories and poems should now be moving forward to a central place as the basis of material. The same stories may in large measure serve both for read-

ing and for language material. Suppose, for example, that the study for to-day is based on *Who Stole the Bird's Nest?*

"To-whit! To-whit! To-whee!  
Will you listen to me?  
Who stole four eggs I laid,  
And the nice nest I made?"

"Not I," said the cow, "Moo-oo!  
Such a thing I'd never do.  
I gave you a wisp of hay,  
But didn't take your nest away.  
Not I," said the cow, "Moo-oo!  
Such a thing I'd never do."

The poem may be made the liveliest kind of a reading lesson. After being read it may be reproduced orally as a language lesson. It has a variety of punctuation marks and may be used for instruction and drill upon these. It illustrates a number of uses of capitals, which may be taught. It has contractions and quotations to be studied. It has the movement, sparkle and interest to make it a good memorizing selection. Thus we find in one short production material for both the idea side and the more formal drill aspect of language study.

Additional stories and poems, suitable for third- and fourth-grade language work:

*Sweet and Low*, Tennyson  
*The Village Blacksmith*, Longfellow  
*Jack Frost*, Gould  
*The Wind and the Moon*, Macdonald  
*The Barefoot Boy*, Whittier  
*The Corn Song*, Whittier  
*Planting the Apple Tree*, Bryant  
*The Night Wind*, Field  
*The Children's Hour*, Longfellow  
*September*, Jackson  
*Jim Crow*, Scollard

*Lucy Gray*, Wordsworth  
*Down to Sleep*, Jackson  
*A Boy's Song*, Hogg

Dramatizing should continue, with constant effort made to have the children enter as fully as possible into the characters they represent. The emotional element should not be forced at this stage.

A study of the biographies of our national heroes, writers, inventors, etc., should form part of the language work for these grades. Washington, Patrick Henry, Lincoln, Grant, Longfellow, Whittier, Edison, are names that suggest much fruitful material. Care must be taken that the emphasis is not placed on matters beyond the grasp of the child in these studies. Let the *human* side predominate—character, ideals, service, general achievement.

Oral work should in these grades predominate over written work.

*Picture study.* There can, of course, be no one list of pictures made to include just those that should be given the child from grade to grade. The principle which must govern is to keep within the range of the child's comprehension and interest. The following have been found suitable for third- or fourth-grade study:

*The Haymakers*, Dupré  
*Holy Family*, Murillo  
*Feeding the Hens*, Millet  
*At the Watcring Trough*, Bouveret  
*Christ in the Temple*, Hofmann  
*Red Deer*, Landseer  
*Shoeing the Bay Mare*, Landseer  
*Sistine Madonna*, Raphael  
*Return to the Farm*, Trayon  
*Return of the Mayflower*, Boughton  
*The Sower*, Millet  
*Aurora*, Reni

*Errors to be corrected.* Do not fail to make corrections of errors as they appear in the daily speech of pupils. The longer an error is continued the harder the habit will be to break. Keep watch for such expressions as the following:

I et my apple, have you et yourn?

Joe has went to school.

I feel kind of sick.

He trew it away and I can't find it nowhere.

These kind of pen are no good.

I c'n git it if you lemme alone.

Whaddaya want it fur?

John learned me to curve a ball.

*Letter-writing.* Letter-writing should be begun in the third grade. Only the simplest forms should at first be taught. They should be written to friends, relatives or playmates, and deal with matters of home and school interest.

The following are fair samples (without the full letter form) of letters written by fourth-grade pupils of Massachusetts schools:<sup>1</sup>

DEAR FRANK:

John told us this morning that you are in bed with a heavy cold. I am very sorry. I hope the doctor is not making you take medicine. I hate to take medicine. We began a new story in class yesterday. The name is "The Blue Bird." Perhaps your mother will get it and read it to you. I know you will like it.

Your friend,

TOM.

DEAR UNCLE:

You are so far away I am afraid you did not hear the good news. Both Mary and I are to be promoted to Grade V. Isn't that fine? Father and mother are as happy as we.

Your loving nephew,

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<sup>1</sup> Bulletin 67, Board of Education, page 31.

*Capitals and punctuation.* The principal uses of capitals should be known by the end of the fourth year, and such skill developed in their more common uses that mistakes are rare. The abbreviations commonly met in reading and those used in writing should be well taught and their punctuation assured. The contractions used in every-day speech and writing should be mastered, and their formation understood. By the end of the fourth grade the following uses of punctuation marks should have been taught:

Period following statement or command.

Period after abbreviations.

Interrogation point after questions.

Exclamation point after exclamations.

Apostrophe in contractions.

Comma in a series of words where connective is omitted.

Comma separating name of person addressed from rest of sentence.

Apostrophe in possessive singular.

Hyphen in broken word at end of line.

**Fifth- and sixth-grade language material.**—The point of view will not change greatly in these grades from that of the third and fourth grades. We should still keep close to the great central interests of the pupils. We should also seek to broaden and enrich those interests by the study of literature, history, current events, industries, etc. Whatever grips the higher enthusiasms and serves to set free the impulse to expression is good language material. Oral expression should still exceed written.

Such topics as those below are suitable for oral or written work for fourth and fifth grades. The children should be taught to organize their thoughts for expression. They should be taught to stand erect when they speak; to speak distinctly; to talk to the point; to use correct English and make their story interesting.

How we played school on Saturday.  
The fun we had on Thanksgiving.  
The first snowfall of the season.  
An automobile trip to the city.  
How I selected my seed corn.  
How I canned tomatoes for the fair.  
The story of Bruce and the Spider.  
Why I had to stay after school.  
Why we should have clean-up work in our town.  
An accident I saw.  
What I would do if I were teacher.  
The story I like best.

The following are oral compositions from fifth- and sixth-grade pupils respectively:

### My Guinea Hens

We have two guinea hens. Their names are Jack and Jill. Jack has a white breast and the rest of him is black and white. Jill has white wings, and her body is gray and white. These guinea hens' combs are different from hens' combs. They are very hard, and hurt your hand to touch them. Jill is very nervous, but Jack is very brave. If he sees his sister in trouble he will run to help her. We keep these guinea hens because if any one should come to steal the hens the guinea hens would set up a loud racket. They also scare hawks.

### How I Help My Mother

Every day when I get up in the morning I eat my breakfast. I wash the dishes, do the beds and sweep the floor. Then I get ready to go to school. In the afternoon I just wash the dishes, and my sister sweeps the floor. When I come home from school I do all the errands. Later I go out to play. When it is five o'clock I go home and stay home. At six o'clock we have supper. When we are all over with supper I gather the dishes from the table. When I am done I start to wash the dishes. When I have finished I say my prayers and go to bed.

*Stories and poems.* Stories and poems should continue as the basis of a considerable proportion of the language work. The pupils should be taught to express a story summary interestingly and clearly in their own words, keeping the sequence of incidents and events. The practise of a complete or literal paraphrase of poems is of doubtful value, since this exercise is certain to kill something of the beauty of the production.

*Letter-writing.* Letter-writing should be extended to include business letters. The difference in fulness and style of letters of friendship and those of business should be made clear. Business letters should include orders for goods, applications for a position, answers to advertisements, etc.

*Capitals and punctuation.* By the end of the sixth grade the child should have in his possession a knowledge of all the more common uses of capitals and the punctuation marks. He should be able to use these marks with reasonable certainty and accuracy, as shown by his written exercises in all school work. He should be able to determine the pronunciation of a word from its diacritical marks, and should know how to find the word quickly in the dictionary.

*Correction of errors.* As long as errors continue in the speech of pupils, that long will the teacher need to continue correcting them and drilling on the correct forms. Pupils should be required to keep a list of their worst errors, and be encouraged to drill themselves in correcting them.

In a special report of the Boise schools,<sup>1</sup> a summary is made of the classes of errors in speech made by pupils, as heard by their teachers on playground, in class room or elsewhere, covering a period of six years. The errors are grouped under the following six heads, with the percentage of the total number of errors charged against each group:

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<sup>1</sup> June, 1915.

1. Verbs: (40.1 per cent.)
  - Past and perfect participle confused.
  - Misuse of had and got, use of ain't.
  - Agreement with subject in number; e.g., "He don't."
  - Sequence of tenses.
  - Uses of shall and will.
  - Use of "and" with infinitive; e.g., "try and go."
2. Double negatives: (3.4 per cent.)
3. Pronunciation: (20.4 per cent.)
  - Just, get, final g, for, asked, February, height.
4. Pronouns: (17.2 per cent.)
  - Case forms:
    - (1) In compound subject.
    - (2) Object of preposition or verb.
    - (3) After copula.
    - (4) In compounds; e.g., "theirselves."
  - Pronoun used for adjective; e.g., "them books."
  - In double subjects; e.g., "John he did the work."
  - Indefinite reference.
5. Adverbs: (5.8 per cent.)
  - Use of adjective for adverb.
  - This here, that there, etc.
6. Colloquialisms, provincialisms: (12.9 per cent.)
  - "Lots" for many or much; "mad" for angry; "learn" for teach; "got" with infinitive, as "got to go;"
  - "like" as a conjunction, as "He felt like he could do it;" introductory "well," "why," "now," "so."

It has also been found by careful observation that the elimination of the ten commonest errors would save full half the errors made in the speech of pupils.<sup>1</sup> These errors are:

Ain't, hain't.  
 Use of saw and seen.  
 Plural subject with singular verb.  
 Double negative.  
 Have got.

<sup>1</sup> See *Iowa Report of Committee on Elimination*, 1916, page 79.

Use of come and came.

Git.

Them and those.

Use of teach and learn.

Use of can and may.

*Grammar.* The beginnings of grammar should be made in the sixth grade. The first matter taught should be the recognition, and then the formulation, of the four classes of sentences: declarative, imperative, interrogatory and exclamatory. The simple sentence should also be taught, with the subject and predicate and their word or simple phrase modifiers.

**Seventh- and eighth-grade language material.**—The language material for the seventh and eighth grades should be a continuation and expansion of that of earlier grades, with the essentials of grammar added. Says Professor C. A. McMurry:

“How to get an introduction to technical grammar without losing connection with every-day, useful English is a serious problem. The difficulty in trying to teach grammar in the upper grades is that there is no good halting place. Once enmeshed in the technical phases of grammar, teachers are impelled to go on and on, till the practical uses of grammar are swallowed up in the technique of classifications, inflections, and definitions.”<sup>1</sup>

The skilful language teacher will not allow grammar thus to depart from its practical uses. Oral and written expression will remain the groundwork of language study even in the later grades, but the grammatical relations necessary to intelligence in the use of the mother tongue will not be neglected. Grammar must *not be taught as an end in itself*, but as a means to *better use of speech and ability in reading*.

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<sup>1</sup> In Preface to *Language and Grammar, Book Two*.

The study of grammar should enable the child to understand the *reasons* for the corrections that have been made in his speech forms in the earlier grades. It should also give him, through the study of sentence structure, greater ability to interpret thought in his reading of difficult matter.

*Points to stress in grammar.* Many of the text-books in grammar still in use in the schools contain an excess of over-technical material having little or no relation to the child's speech or interpretation in reading. It is therefore necessary for the teacher to know the points at which children are most liable to make errors in their speech, and then *teach those phases of grammar that apply*. The following have been found to be "danger points" in grammar which most need attention.<sup>1</sup>

1. A knowledge of the *sentence*, in order that a complete sentence may always be recognized for purposes of punctuation in writing, and also for its relation to clear thinking and expression.

2. The *noun*; proper, in order to capitalize; possessive form; uses as subject, complement, object.

3. The *personal pronoun*; especially objective and certain possessive forms; uses of which, that, what, who and whom.

4. The *adjective*; distinction from adverbs; comparison; capitalization of proper adjectives.

5. The *verb*; transitive and intransitive; agreement with subject in person and number; plural with compound subject; past participle not used for past tense. The verb is responsible for a large proportion of the errors of speech, and should receive special attention.

6. The *adverb*; comparison; special attention to the "ly" forms.

7. Sentence *order*, with reference especially to modifiers in wrong positions.

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<sup>1</sup> Cf. 1916 Iowa Report on Elimination, page 95.

### 8. Double negatives.

*What to omit.*—Based on a study made by Dean W. W. Charters of the grammar needs of children,<sup>1</sup> a committee of the Iowa State Teachers' Association recommends the following omissions from grammar instruction in the grades:<sup>2</sup>

The exclamatory sentence; the interjection; the appositive; the nominative of address; the nominative of exclamation; the objective complement; the adverbial objective; the indefinite pronouns; the objective used as a substantive; the classification of adverbs; the noun clause; conjunctive adverbs; the retained objective; the modes (except possibly the subjunctive of "to be"); the infinitive; the objective subject; the participle except the definition and the present and past forms; the nominative absolute; the gerund nominative absolute; sentences for analysis and parsing that involve subtle points of grammar; formal parsing; conjugation; diagramming; person of nouns.

### *Organization and Presentation*

In the section on selection of material much direct or indirect reference has been made to methods of organization and presentation. No extended discussion will be required, therefore, at this place.

**Securing expression.**—The first requisite in successful language teaching is *to secure spontaneous expression*. The older logical method was to teach rules, principles, facts (and their exceptions!), trusting that these would in some way carry over to the practical use of speech and serve as a guide. But the larger part of such material thus taught

<sup>1</sup> *University of Missouri Bulletin*, Vol. 16, No. 2.

<sup>2</sup> *Report on Elimination of Useless and Obsolete Material* (1915), page 15.

never made connection with speaking and writing. It remained as so much unused verbal lumber in the mind.

The newer and better psychological method starts with expression. It seeks to get the child to speaking and writing his thoughts freely and effectively, even if not at first with rigid grammatical correctness. It then undertakes to eliminate errors and cultivate the grammatical sense on this basis of actual speech. The spirit of freedom and good fellowship should therefore prevail in the highest degree during the language period. For where constraint and constant criticism are, there spontaneity and expression do not flourish. Nor will the good teacher monopolize the language time with his own speaking, no matter how excellent this speaking may be. On the whole, the best language teaching is that which most stimulates the *child's* thought and expression with a minimum of speech, except in story-telling, on the part of the teacher. Stenographic reports have shown that the teacher often uses *more than three times* as many words as all the pupils together in a language recitation!

**Extending the vocabulary.**—The child first comes to school with a vocabulary seldom reaching much above one thousand words. One of the chief functions of language teaching is to extend this vocabulary. But a vocabulary can not be extended faster than ideas develop; for words that do not serve as the vehicle for ideas are useless, and they are not used. The vocabulary may also need *refining* through the elimination of coarse or uncouth words and phrases.

The vocabulary can be expanded (1) by noting and mastering new words from stories, poems, etc.; (2) by learning the new words that appear in other school subjects; (3) by observing new words in the speech of others. The great thing in this connection is to cultivate in the pupils the spirit of curiosity about new words. Stimulate them to look up a

new word as legitimate game (or a dangerous adversary) which must be tracked down and captured. The utter indifference with which many pupils will pass over a word without knowing its meaning or adding it to their vocabulary indicates inefficient teaching at this point.

The dictionary habit should be cultivated from the fourth grade on. But dictionary definitions alone do not suffice. The purpose of learning a new word is not simply to know its meaning, but to add it to one's own vocabulary. Therefore the new word must be pressed into service. It must be *set at work* in oral or written sentences.

**The use of blanks in sentences and stories.**—One great difficulty that all language teachers have to fight against is the failure of pupils to carry what they learn into actual practise. The use of blank spaces in sentences or stories, the spaces to be filled by the pupils from a list of words supplied, is helpful in this connection. New words, homonyms and correct language forms may be presented by this device.

**Encouraging original expression.**—Children need to read, hear and memorize as models the beautiful poems and interesting stories of which there are so many now available. But they also need to be encouraged from the first *to try their own wings of expression*. The personal story to be told or read to the class, the part written for a school paper or booklet, or the verses composed to surprise the teacher or the mother are all the essence of good language work. *Creation* as well as appropriation is the criterion of effective language teaching. The following verses are samples of what children can be led to do:

### *Spring*

The sun is bright, the sky is blue,  
The robin sings his song to you,

The children dance and scamper and sing  
To see that once more it is spring.

'Tis spring! 'Tis spring!  
The cheery robins sing,  
The flowers awake from their long winter sleep.  
In the brooks in the meadows the little fish leap.  
(Second Grade, New York.)

*Home and Mother*

I want to go home to mother,  
To help spend Christmas day,  
There we will all be together,  
Happy, cheerful and gay.

(Fourth Grade, Council Bluffs.)

**The socialized recitation.**—As suggested earlier in the chapter, the pupil must not only have something to say, but *some one to say it to*. The language class should constitute a real social group. Each one should contribute his full share either as speaker or as listener. This will require that those who speak shall have something interesting to say to which the others will care to listen. The ingenious teacher will find many ways for carrying this principle into practise. Here are some of the ways that suggest themselves:

1. The story hour, in which each child tells a story that the others do not know.
2. A "joke hour," in which each contributes the best joke he knows.
3. Current event day allows each child to bring in the most interesting event of which he can learn.
4. Original poems or stories may be presented.
5. A story may be dramatized.
6. A school paper may be read.
7. Reports may be made on an interesting trip taken.
8. Reports may be made on books or articles read.

**The good speech club.**—Some of the most successful teachers have organized their school or room into a language club. All are eligible to membership. Each member of the club keeps a list of his own errors and of the errors he hears in the speech of other members. These errors are turned in once a week to the teacher or a secretary who charges the errors against the different members. The lists are used as the basis of an occasional language lesson, the emphasis being placed on the *correct form*, and drill given. The game is of course to see how few errors can be charged against one in the course of a week.

### QUESTIONS AND PROBLEMS

1. Estimate the proportion of time you give to oral and to written language work in each of the grades. Do you give enough oral work?

2. Try to formulate your greatest difficulties in teaching language. Then review the chapter to see whether you can find suggestions that apply. Do you find children who are backward in expression? If so, do you judge the difficulty is from shyness, lack of ideas, speech defects, or some other trouble?

3. Consider carefully the subjects in each grade with which you most closely correlate the language work. Do you think you are slighting any good material? How do you tie the language work to genuine interests instead of abstract themes? Do you ever ask a child to write on a topic about which he has not enough ideas to serve as a basis for ready expression?

4. To what extent do you make pictures the basis of language study? Which do you think the better, pictures such as found in the text-book, or masterpieces? Be sure to take into account the value coming from the study of the better picture. Try showing the children of each grade a considerable number of prints and ask them to pick the ones they like best. What conclusions do you draw?

5. Do you agree with the recommendations on grammar? What is your plan for keeping a record of the errors in speech commonly made by your pupils and how do you work for their correction? Do you secure a reasonable amount of memorizing poems and stories

from your pupils? Do you teach them how to memorize, as suggested in the chapter on Reading?

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## CHAPTER XIII

### ARITHMETIC

**A**RITHMETIC has for generations been one of the chief standbys of the elementary curriculum. Originally it came into use as a practical tool employed in trade during the Middle Ages. It was not until some centuries later that it was deemed of sufficient importance to claim a place in general education. Once secure in the school, it gradually lost its concrete and practical character and became a formal subject chiefly prized for its "disciplinary" effects. So easily did arithmetic lend itself to the formal aim that probably more than half the material found in the older type of texts still in use in many schools lacks all direct relation to everyday need for computation. A distinct movement is now under way to bring the subject-matter of arithmetic more directly into touch with practical affairs.

#### *The Aim of Arithmetic*

Just what is the function of arithmetic in present-day education? First of all we must agree that the aim of arithmetic can not be expressed in terms of mental discipline. Its main purpose is concrete, direct, practical, applied. It is the business of arithmetic to enable one to do the ordinary numbering and computing required in the common economic and social relations. Without denying whatever disciplinary or cultural value arithmetic may have, we shall nevertheless look upon these values as entirely supplementary and incidental aims and in no sense the controlling factor in either material or method. Furthermore, the discipline from arith-

metic can be obtained at least as well from useful as from useless material.

**The knowledge required.**—From this point of view it follows that the knowledge required in arithmetic is of the sort that fits into the real situations to be met in home, in shop, in business or on the farm. Complicated and involved processes, not employed in genuine affairs; tables and measures not in common use; formulas, rules and highly specialized methods foreign to business computation are all outside the true purpose of elementary arithmetic and should be excluded from it.

On the other hand the fundamental tables and measures, the simplest and shortest methods of business computations and the practical application of arithmetic to the concrete problems of daily life must be a fundamental part of the education of every intelligent person. Not how wide a range of "pure" arithmetic one may know, but the thoroughness with which he knows or can apply the relatively few fundamentals is the final test.

The study of arithmetic in the grades should give the child the following knowledge:

1. How to count objects of all kinds. How to count by naming numbers only. How to count by twos, threes, etc.
2. How to read and write numbers of ten to twelve figures.
3. The tables and processes involved in addition, subtraction, multiplication and division of whole numbers.
4. Common fractions, and their addition, subtraction, multiplication, and division with the use of such denominators as are commonly used in business. A similar knowledge of decimals involving up to three places.
5. The common tables and measures employed in the ordinary life routine of the average man or woman. These are: measures of length, angle, surface, volume and capacity, quantity, weight, time, money, value.

6. Our monetary system, denominations, and the various business practises involving the use of checks, drafts, notes, mortgages, etc.

7. Percentage, and its simpler applications to practical business uses.

8. Simple mensuration, applied to lines, angles, surfaces, volumes.

**Attitudes to be developed.**—Teaching arithmetic as a practical tool daily to be employed in all sorts of common affairs should result in the development of certain attitudes toward its study and use:

1. A tendency not to be satisfied with *guessing* or approximation, but to insist on *finding out* through the use of figures on all essential matters involving numerical values.

2. Standards of business accuracy that will result in the keeping of an accurate account of all personal or household receipts and expenditures. This will make possible a proper adjustment of expenditure to income, and also a right balance among the different objects for which money is spent.

3. Unwillingness to rely on general estimates or rough approximations with reference to projects planned, as improving a home or a farm, taking a trip, investing in an automobile, etc.

4. Insistence on detailed and accurately kept records of profits or losses from the different enterprises of farm, shop or business.

5. The development of such a sense of values and the inevitable logic of figures as will render one proof against the get-rich-quick schemes planned by unscrupulous promoters to catch those who through ignorance of business believe wealth to be attained by some kind of magic.

6. A sense of pleasure and satisfaction in the use of figures and in the certainty which comes from their wise application to one's affairs.

It is quite as much the purpose of arithmetic to develop

these attitudes toward its use as to supply the knowledge of its processes. Good teaching will direct the instruction to this end.

**The training of skills.**—The material of arithmetic may roughly be divided into two groups: (1) that in which the facts to be mastered require but the simplest forms of association, with a minimum of reasoning; as, for example, counting, reading and writing numbers, and the combinations in addition, subtraction, multiplication or division of whole numbers or fractions. And (2) the logical or thought processes by which these fundamental numerical relations are applied to the solutions of problems.

The first of these, the operations involved in counting, notation, numeration, and addition, subtraction, multiplication and division should as rapidly as possible be made so automatic that they require no hesitancy or thought when called for. They must be so securely lodged and so certain that they claim no attention to themselves, but leave the mind free for the logical relations, the true thought elements, involved in the problem. They must also be so accurate and proof against error that mistakes in adding, subtracting, multiplying or dividing will not defeat all the reasoning done on the problem.

There is no question but that we fail at this point. Our system of arithmetic teaching has on the whole not resulted in a reasonable accuracy and skill in the use of the fundamentals. Our pupils add, subtract, etc., too slowly and make too many mistakes.

There is no way, of course, of telling just exactly how much skill in number and arithmetical reasoning should be possessed by pupils of a certain age or grade. We have no absolute measures of such things. Yet certain standards of skill have been determined by taking the *average* performance of a large number of children in the corresponding

grades of different schools. If, for example, we know that one thousand fifth-grade pupils have been found on the average able to add seven sets of columns in eight minutes containing certain combinations of figures, we have in this fact a fairly accurate standard by which to judge our own fifth grade or any individual pupil in it. Such standardized tests as these have been carefully devised. The one most widely used is called the Courtis test, which is herewith given: (By courtesy of the author, S. A. Courtis, Detroit.)

*Addition*

(Time Allowed, Eight Minutes)

127	996	237	386	686	474	877	537
375	320	949	463	775	787	845	685
953	778	486	827	684	591	981	452
333	886	987	240	260	106	693	904
325	913	354	616	372	869	184	511
911	164	600	261	846	451	772	988
554	897	744	755	595	336	749	559
167	972	195	833	254	820	256	127
554	119	234	959	137	533	258	323
—	—	—	—	—	—	—	—
237	564	632	674	421	258	326	267
492	278	263	158	988	885	770	854
679	947	318	745	465	600	753	684
513	522	949	121	114	874	199	358
468	989	746	437	676	726	469	938
731	243	653	426	729	142	643	333
856	334	428	953	235	355	698	493
302	669	456	674	190	947	186	775
925	142	532	329	406	351	173	239
—	—	—	—	—	—	—	—
873	622	485	172	236	537	648	584
168	479	871	426	578	227	396	157
332	283	524	951	877	725	389	617
419	791	919	537	916	598	374	624
934	808	722	989	543	906	859	467
493	253	456	565	593	763	191	369
529	419	216	230	956	195	423	511
156	952	862	673	439	480	849	245
224	522	424	258	309	102	342	233
—	—	—	—	—	—	—	—

*Subtraction*

(Time Allowed, Four Minutes)

114957187 90271797	94752808 67349640	106089449 16915390	99833978 73160227
115171700 63087381	82484740 48207825	115916913 55536329	72229470 45049173
146246252 52160891	80630266 68164329	124485018 73098624	107419373 65348405
37953635 23913884	137825921 62729490	152695030 85612816	178976226 93060303
97089301 20203267	93994413 54783938	108051861 73463849	163130569 91061255
168354186 70537861	188545364 92471259	120981427 64188045	105755782 90863147

*Multiplication*

(Time Allowed, Six Minutes)

8259 28	3467 93	4637 82	2859 47	7436 65
5289 39	6473 740	8529 56	8632 206	5947 62
3268 95	4795 83	7954 74	2386 38	9745 59
6283 47	9624 503	7853 35	4926 620	5873 49
2964 94	8357 87	6249 78	3785 35	4965 19

*Division*

(Time Allowed, Eight Minutes)

24) $\overline{6984}$	95) $\overline{85880}$	36) $\overline{10440}$	87) $\overline{81867}$
78) $\overline{62868}$	42) $\overline{17682}$	63) $\overline{26460}$	59) $\overline{50799}$
36) $\overline{16236}$	87) $\overline{61161}$	95) $\overline{69350}$	24) $\overline{10800}$
63) $\overline{42903}$	42) $\overline{28560}$	59) $\overline{29913}$	78) $\overline{44538}$
29) $\overline{24679}$	57) $\overline{51642}$	38) $\overline{32300}$	64) $\overline{61504}$
46) $\overline{34086}$	75) $\overline{55500}$	92) $\overline{27784}$	83) $\overline{26643}$

The results of the Courtis tests given to thousands of children in many different towns and cities show that, to be as good as the average, pupils should be able to work the following number of examples in the respective grades, with one hundred per cent. of accuracy. The examples have been so devised that all are of equal difficulty so that a child who gets three correct has done exactly half as much as one who gets six.

	Addition	Subtraction	Multiplication	Division
	No.	No.	No.	No.
Grade	examples	examples	examples	examples
3	3	4	3	2
4	5	6	5	4
5	7	8	7	6
6	9	10	9	8
7	11	11	10	10
8	12	12	11	11

*Material—What to Teach*

In accordance with the point of view already emphasized, the material we teach in arithmetic must be selected to accomplish the aim we desire to reach. In general this will

mean to teach *less* arithmetic and teach it *better*. The relatively useless and obsolete matter which has characterized many of our texts for years must give way to additional drill upon the fundamentals, and to the solution of an abundance of genuine problems related to actual affairs.

**The first year.**—During the first school year the child will have some touch, however simple, with fully one-half of the eight groups of knowledge mentioned on page 218. The following is an approximation of what should be presented under ordinary conditions:<sup>1</sup>

*Counting.* Teach to count objects of all sorts up to one hundred. Also teach to count by naming numbers only, up to one hundred ten; to take half of an object or groups of objects.

*Writing and reading numbers.* Teach to write all numbers counted; to read all numbers counted; also to read numbers from pages of reader as far as the numbers go. The critical part here is to drill on the figures from 1 to 19 until they are quickly and unerringly associated with the number counted. Proceeding into the next decades will then be relatively easy.

*Using money.* Children of the present day very early learn the value and use of money in the home. Buying and selling can therefore be profitably used as the basis for much practical work in developing the number sense. Teach to buy and sell using toy or real money, and making change in all amounts up to ten cents.

*Measuring.* The child should learn to measure common objects in feet and inches with a clearly marked ruler. It is better to have inch marks only at first. Also to recognize the yard-stick. To recognize pint, quart and gallon meas-

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<sup>1</sup> Many schools prefer to give less the first year and correspondingly more later.

ures, and count number of pints in a quart, and quarts in a gallon by use of measures.

*Addition and Subtraction.* Practise differs widely on the question of teaching formal addition and subtraction during the first year. The recent Massachusetts course of study in arithmetic (*Bulletin 66*) leaves all such work until the second year. In states where the school age is fixed at five years it is certainly a mistake to attempt any great amount of formal instruction in addition and subtraction in the first grade. Where these topics are taught, the addition combinations should probably not go beyond about the first twenty of the forty-five. The subtraction may be taught by the Austrian (or addition) method, thus:

$$\begin{array}{r} 76589 \\ -32454, \\ \hline \end{array}$$

4 and 5 are 9  
5 and 3 are 8  
4 and 1 are 5  
2 and 4 are 6  
3 and 4 are 7

**Second year.**—Review all work of the preceding year.

*Counting.* Review counting by ones and work for speed and certainty. Begin at any place in the series 1-100 and count to one hundred. Count by twos, fives and tens to one hundred. Build one hundred objects into groups of fives or tens, and then count groups to one hundred.

*Writing and reading numbers.* Write readily and with accuracy all numbers counted. Read numbers as far as pages in reader go. Read and write the Roman numerals to XII.

*Addition.* Review work of first grade. Complete all addition facts of the first twenty numbers, thus:

$$1 + 1 = 2$$

$$2 + 1 = 3$$

$$2 + 2 = 4$$

$$3 + 1 = 4$$

$$3 + 2 = 5$$

$$3 + 3 = 6$$

And so on to 10 and 10 equals 20.

Column addition should be begun, using at first examples of one column with the sum not exceeding ten. Extend this to numbers of two figures each, columns to consist of three or four numbers, thus:

4	5	4	36	24
3	3	6	21	61
2	1	2	42	53
—	—	—	—	21
				—

Addition by endings should also be started at this time, using such exercises as the following:

3 and 2 equals 5, therefore 23 and 2 equals 25.

6 and 5 equals 11, therefore 26 and 5 equals 31.

*Subtraction.* Teach subtraction facts of the first twenty numbers. This may be done first by the Austrian (addition) method, and then by taking away.

$$2 - 1 = 1$$

$$3 - 1 = 2$$

$$3 - 2 = 1$$

$$4 - 1 = 3$$

$$4 - 2 = 2$$

$$4 - 3 = 1$$

Carry this to  $20 - 19 = 1$ .

Also teach subtraction by endings, as:

9 — 3 equals 6, therefore 29 — 3 equals 26.

11 — 4 equals 7, therefore 41 — 7 equals 34.

*Multiplication and division.* Teach the facts of multiplication and division of the first twenty numbers, as follows:

Two 2's equal 4	Two 2's in 4
Three 2's equal 6	Three 2's in 6
Four 2's equal 8	Four 2's in 8
as far as	as far as
Ten 2's equal 20	Ten 2's in 20
Two 3's equal 6	Two 3's in 6
Three 3's equal 9	Three 3's in 9
Four 3's equal 12	Four 3's in 12
as far as	as far as
Seven 3's equal 21	Seven 3's in 21

*Measuring.* Teach to measure with increasing exactness the lengths of lines or such objects as tables, desks, boxes, in feet, inches, half-inches, or quarter-inches; to measure quickly and accurately with pints, quarts and gallons; to measure in pecks, half-bushels and bushels where required in the work of the school; to weigh in pounds and ounces; to know the time of day on the clock; to know day of week and month from a calendar; to know and draw straight, curved, horizontal and vertical lines.

*Using money.* By means of buying and selling with the use of toy or real money teach how to make change in cent, five-cent and ten-cent pieces for all amounts up to fifty cents.

*Fractions.* The child should learn to divide an object or a group into halves or quarters; to fill a measure half full, or empty out one-half; to know a half-hour and a quarter-hour on the clock.

**Third year.**—Continue review and drill on all the fundamentals of the first two years. This is the time to make the elementary operations automatic.

*Reading and writing numbers.* Train to read and write numbers of five figures; to read and write all common fractions with numerators or denominators of one figure.

*Addition and subtraction.* Teach column additions with numbers of two and three figures; adding from top of column as check for correct result; how to carry from columns that add to ten or more; subtraction of numbers of three figures; how to "borrow" when lower number is larger than upper; how to test correctness of result in subtraction; terms sum, minuend, subtrahend, remainder; easy problems involving addition and subtraction.

*Multiplication and division.* Make sure of the following: the multiplication tables complete to ten times ten; division of numbers of three figures by divisors of one figure; terms multiplicand, multipliers, product, dividend, divisor, quotient, remainder; application of multiplication and division to simple concrete problems.

*Measuring.* Teach measures of volume, both liquid and dry; lines and surfaces; drawing of squares and rectangles, and measuring of their perimeters; horizontal, vertical and inclined and parallel lines; right, acute and obtuse angles; square, rectangle, triangle, circle; all terms employed in measuring.

*Fractions.* Present the following: dividing objects and groups into halves, fourths and eighths; simple problems involving the use of  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ,  $\frac{3}{4}$ ,  $\frac{3}{8}$ , etc.

*Using money.* Teach the simple operations of buying and selling that require the handling of money and making of change up to two dollars.

**Fourth year.**—The work of this grade is chiefly an extension of the work already begun, as follows: reading and writing numbers carried to seven figures; addition and subtraction will involve much drill in rapid sight work, with

written work for accuracy and speed; multiplication by numbers of two and three figures; division with remainders; long division with divisors of two and three figures. In both the fourth and the fifth grades, drills should be given to bring the pupils up to the standard of the Courtis tests. Measuring is to be continued, with chief tables learned and concrete problems solved; common fractions extended and decimals begun. Many practical problems should be given from this time on in all the different phases of the work, both to add interest and to show the application of numbers to actual affairs.

**Fifth and sixth years.**—Teach reading and writing numbers up to ten figures. Review and drill upon addition, subtraction, multiplication and division. Drill on factors and their products; common fractions added, subtracted, multiplied and divided; decimals up to three or four places; mixed numbers; all common measures; buying and selling, with losses and gains; percentage in the sixth year; bills and receipts.

**Seventh and eighth years.**—The drill for accuracy and speed is to be continued in the fundamental operations, both with whole numbers and fractions common to business operations. Emphasize the following: extension of measuring and much practical application to genuine problems; taxes; life and property insurance; bonds and mortgages; banking methods; promissory notes; ratio and simple proportion; powers and square root.

### *What to Omit in Arithmetic*

If arithmetic is to be taught as an efficient instrument for use in solving real problems, much traditional and obsolete material common to many texts should be omitted. The following wise recommendations for omissions were made by

the Committee on Elimination of the Iowa State Teachers' Association:<sup>1</sup>

1. Long method of greatest common divisor.
2. Most of lowest common multiple.
3. Long, confusing problems in common fractions.
4. Long method of division of fractions. (Always invert and multiply.)
5. Complex and compound fractions.
6. Apothecaries' weight, troy weight, the furlong in long measure, the rood in square measure, dram and quarter in avoirdupois weight, the surveyor's table, the table of folding paper, tables of foreign money, all reduction of more than two steps.
7. Most of longitude and time.
8. Cases in percentage. (Make one case by using  $x$  and the equation.)
9. True discount.
10. Most of compound and annual interest.
11. Partial payments, except the simplest.
12. Profit and loss as a separate topic.
13. Partnership.
14. Cube root.

### *Organization and Presentation—Instruction*

The immediate point of contact in arithmetic is found in the child's relations to his environment—the need for numbering and measuring the things about him. Arithmetic material should be so organized that it grows out of and relates to these needs. The knowledge learned and the applications made will then have a value and call forth an interest unknown where the material is chiefly abstract, or unrelated to actual conditions. Arithmetic thus correlated with other studies and activities becomes an indispensable tool constantly used in all common affairs in the school and outside.

**Use of the concrete in elementary number.**—The older

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<sup>1</sup> See *1916 Report*.

method was to teach the child to count to ten or to one hundred in the abstract, and to learn that two and two are four in general. When the child first naturally begins to count he counts something, and does not merely say over the names of numbers. When he first naturally begins to add and subtract he adds and subtracts *objects* and not the symbols we call *figures*. The first instruction in number should likewise be with objects. These objects should, as far as possible, be *real* objects commonly dealt with in every-day experience, and not chiefly splints, pegs, tiles, bits of colored paper, etc., which are too artificial for the best results. Apples, pieces of candy, the members of the class, the windows of the room, desks and a hundred other objects ready at hand afford a better type of material.

Having said we should begin with objects we must now hasten to say that objective teaching of number should not continue too long. The child must come to think numbers in the abstract—to know at once that three and four are seven without referring actually or mentally to three objects and four objects. The tendency of many children to add on their fingers or by means of drawing marks is due to failure to break away from the objective.

No rule can be given as to the amount of objective teaching to employ before advancing to the abstract. The teacher must judge by the response and understanding of the child. Nor will the transition be abrupt. Recourse will often be had to objects after abstract work is begun in order to clear the child's understanding of a difficult point, or to make concrete application of some fact learned. The principle to keep in mind is that objects are used as an aid in developing the sense of abstract number, and should not be allowed to hinder in this development.

**Processes and their applications.**—The two broad phases of arithmetic mastery have already been mentioned—

that (1) of the *processes*, adding, multiplying, etc., and (2) the application of these processes to the *solution of problems*. The first of these is to be made mechanical and automatic, the second requires logical thinking.

In the early years, *facility in the processes* is the primary aim. This is to be secured largely by repetition and drill, with a minimum of explanation of the reasons involved. For example, the child should not at first have explained to him why he is to invert the divisor in dividing one fraction by another, he is to learn *what is to be done*, and then to practise in this until skill comes. He is not to be troubled in the beginning with the reasons that underlie factoring and the finding of the greatest common divisor; he is to *learn the process* and develop skill in its use.

This does not mean that arithmetic must be all mechanical, and thus fail to test and train the power of thinking. But the fundamental reasons lying back of many of even the simpler number processes are far beyond the grasp of the child and will but bewilder and discourage him. The opportunity to train the child in reasoning *comes in the application of the elementary processes to the solution of problems*. And at this point the teacher must not fail, for it is one of the best opportunities to be found in the whole range of school work.

The International Commission on the Teaching of Mathematics expresses the conviction that "there is still an inevitable tendency among pupils to become formal even in what seems real thought work." A group of this commission was testing a certain class of children in their ability to think in arithmetic, and gave them the following problem:<sup>1</sup> "A man hitches up a horse to a buggy and drives three hours at the rate of six miles an hour. How much farther would

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<sup>1</sup> *The American Report, Bulletin 460, of the U. S. Bureau of Education, page 76.*

he have gone if he had hitched up two horses?" All the pupils but one in the class doubled the distance. This problem was also tried on a large number of children: "If a duck weighs three pounds when it is standing on one leg, what does it weigh when standing on two legs?" Nearly all answered that it would weigh twice as much. Such errors suggest the necessity for teaching children really to *read* problems.

The teacher must with patience and with skill teach the children to *think* in solving their problems. By leading them to see the reasoning involved, and by placing the premium of approval or praise on really thoughtful work, the practise of guessing, or of working by hook or crook for the "answer" can be discouraged. Especially can this be done when arithmetic is correlated with the other work of the school and made to do real and honest service of a practical kind.

**Reviews and drills.**—The amount of review and drill required in the lower grades puts a very great strain on the teacher's ingenuity. For both psychology and experience teach us that the price of attention and interest is variety, change, novelty. Mere repetition does not constitute drill, nor result in skill. Kirby tested over seven hundred fourth-grade children for speed and accuracy in addition and then gave them sixty minutes' practise (divided into short periods) in adding, each child working under the incentive of seeing how much he could better his record.<sup>1</sup> The effect of this one hour of practise under stress of keen concentration was *an increase of over fifty per cent. in speed* with no loss in accuracy. The same results were obtained from drill in division under similar conditions.

Singsonging the multiplication table in sleepy concert, droning through the combinations in addition, or lazily and leisurely performing any other drill work is futile, for only

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<sup>1</sup> *Practice in the Case of School Children*, page 12, ff.

an alert mind profits by repetition. The old adage of "accuracy first, then speed" is false. Accuracy and reasonable speed go together, and they should be trained together from the first. The skilful teacher will devise games; get up competitions, keeping a record of scores posted from day to day that each may compare his record with that of others and also with his own previous records; arrange devices for quick drilling, etc., to supply the required practise and at the same time secure the fullest response from the pupils. All this demands time, thought and energy on the part of the teacher, but nothing easy will succeed.

There are many simple devices like the circle with a certain figure at its center and the figures to be used in combinations with it around the circumference. As the figures at the circumference are pointed to by the teacher or a pupil the answer is spoken by the one reciting. It is evident that such a device can be used for subtraction, multiplication and division as well as for addition. The teacher should develop a plentiful supply of such devices and freely use them.

**Inductive method in arithmetic.**—In dealing with the thought phases of arithmetic the inductive method should as a rule be employed. This means that new topics will be developed with objects or illustrations rather than being introduced by rules and definitions. For example, decimals may very easily and naturally be presented by connecting them with common fractions.

Have a list of common fractions written on the board. Then have the pupil write the decimal form under each common fraction, thus:

$\frac{1}{10}$	$\frac{2}{10}$	$\frac{3}{10}$	$\frac{4}{10}$	$\frac{5}{10}$	$\frac{6}{10}$	$\frac{7}{10}$	$\frac{8}{10}$	$\frac{9}{10}$
.1	.2	.3	.4	.5	.6	.7	.8	.9

Repeat with hundredths and thousandths and drill until the proper associations are formed. Develop the idea of

percentage in the same way. Have the tables of measures developed by actual measuring. Develop rules for finding area of squares, rectangles and triangles by drawing to scale and counting the resulting units, and so on.

**Standards of success.**—Children, like adults, do better when they are meeting with a reasonable degree of success. Nothing cripples power and paralyzes effort like the discouragement that comes from constant defeat. The child must feel a sense of mastery in his work. He must know that he is making progress and attaining skill. This all argues that our teaching and the child's learning must be thorough and complete enough that our pupils are not lost in a haze of doubtful mastery and half-seen truths. Let us teach only what can be carried through to reasonably complete mastery. Then let us be sure of that mastery.

The practical carrying out of this point of view will demand that we introduce all new topics and conduct all drills with rather small and simple numbers instead of with large and cumbersome ones. For example, many exercises with reasonably small dividends and divisors afford a better training in long division than a few long, complicated ones with a large percentage of failure to secure the correct result. The common fractions most used in business are those with the denominators shown in the following list:

$$\frac{1}{2} \quad \frac{2}{3} \quad \frac{1}{4} \quad \frac{3}{8} \quad \frac{5}{8} \quad \frac{9}{10} \quad \frac{3}{16} \quad \frac{7}{8}$$

The decimals commonly employed in actual computations of non-technical kinds most often do not exceed two places, more rarely run to three places, and very seldom reach four places. But within this relatively simple range *speed and accuracy are demanded*. Here then must be our standards: *Speed and accuracy in the simpler mechanical operations, speed, accuracy and clearness of thinking in the solution of the simpler practical problems of every-day life.*

*Miscellaneous Suggestions*

1. Start each new topic with a review of the old material on which it is based. This will serve to weld the two together, increasing the value of each.

2. Give as much individual attention as your time will permit, so as to discover and remedy the troubles peculiar to each child.

3. Keep a sharp look-out for the beginning of bad habits, such as counting on the fingers, writing down numbers to be carried, etc. It is easier to form than to reform.

4. Use every effort to prevent guessing, or the try-try-again method of solving problems. Train the children to *think* as they proceed.

5. In conducting drill work on number combinations after the first year, see that enough concrete problems are brought in so that arithmetic shall from the first impress the pupils as a *tool*, and not something merely to be *learned*.

6. Cultivate the art of neatness and accuracy in all written work. Training in habits of such kinds are almost as important as the number material itself.

7. Do not place too great dependence, especially in the lower grades, in definitions and rules. They may be but mere words, devoid of meaning to the child. See that the meaning and application of a rule or principle is developed before it is committed to memory.

8. Grade all work so carefully that the children proceed naturally from one task to another, and thus do not have too many new things thrust on them at one time.

9. Be sure that the problems given for solution are clearly understood. Often children do not know how to proceed because they do not understand the meaning of the problem.

10. Hold pupils to a high standard of accuracy. It may

be well at times to grade work (1) for correctness of principle, (2) for accuracy of results. Lead the pupils to see that practical business demands *accuracy*.

### QUESTIONS AND PROBLEMS

1. Study carefully the standards set in the chapter for knowledge and attitudes and judge whether your pupils are being trained to measure up to the required standards. Do you find that your attempt to work out this problem tends to make your teaching more definite?

2. Secure if you can a supply of the Curtis Tests by which to measure the skill of your pupils, grade by grade. If you find them generally deficient as compared with the averages shown on page 223, what is the remedy?

3. Do you find the problems of your arithmetic text concrete and within the grasp of your pupils, or are they formal and too difficult? What would be the advantage of substituting problems taken from other subjects, such as agriculture, geography and manual training, for some of the work of the text?

4. What devices have you for securing drill on fundamental number combinations without allowing the work to become monotonous from repetition? Is there any use to drill with slack attention? Do you employ games and competition?

5. How many of the topics recommended for omission have you been teaching? If you drop them is there any danger of your pupils not being able to pass the eighth-grade examination set by some higher authority for graduation? Many superintendents give their teachers to understand that no examination questions will be based on doubtful topics.

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## CHAPTER XIV

### GEOGRAPHY

**G**EOGRAPHY is one of the broadest and richest of school subjects. Its business is to describe the earth as related to the interests, needs and activities of man. It must, therefore, deal with many kinds of knowledge, both about the earth itself and also about man. Geography finds its subject-matter in the fields of many other subjects, being obliged to call upon the material sciences, the social sciences, mathematics, etc., for many of its facts. Yet these facts are treated differently when brought over into geography from what they are in their own field, for in geography they are always used to describe or explain the earth *as the home of man*.

**Nature of geography.**—From this point of view we can say, then, that *the interests, needs and activities of man* are the starting point of geography. They determine what shall be its material and what its method. Put more concretely it means this: we shall teach in geography those facts and only those facts that have a direct bearing on man's relation to the earth—facts that *matter* in man's activity in making the earth into a home. We shall omit from elementary geography many curious but irrelevant facts that have no bearing on the central thought, *the earth as man's home*.

The older geography did not proceed from this point of view. It taught the earth very much as a thing-in-itself, without much reference to our relation to or interest in many of the things taught. Hour after hour in the geography class

we droned the names of unimportant capes, bays, straits, gulfs and peninsulas, which, though we may since have read and traveled much, we have yet to meet outside the old geography. We developed great skill in "bounding" all the countries of Europe and Asia, but we actually knew very little of people or products outside the boundaries of our own township. We could glibly tell the names of the rivers, large and small, in many states, but had no notion whence the little creek that flowed past our playground came or whither it went.

### *The Aim—What We Seek Through Geography*

The great aim in teaching geography is to lead the child to know and appreciate his earth-home and adjust himself to it. As in the case of other subjects this will require on his part the gathering of certain *knowledge*, the cultivation of certain *attitudes*, and the training of certain *skills*.

**Knowledge required through geography.**—What, then, should the child learn through his geography? What does he most need to know about the earth as his home in order to live broadly, happily and successfully upon it? The following are the chief groups of knowledge that the study of geography should supply:

1. *Orientation*, or knowledge of location, distance and direction in space. Much practical knowledge of this sort is picked up outside the school, but to the school will remain the task of making the knowledge broad and accurate. Our minds are so constituted that they ask *where* almost as constantly as *why* or *what*. The child should come through geography to know the location, distance and direction of chief countries, cities, oceans, rivers, mountains, etc., of the earth.

2. *Climate and seasons*. Much of man's welfare and

comfort depend on climatic conditions. Climate determines the distribution of vegetation and animal life, and thereby affects industries, transportation, the location of cities, and many other important interests.

3. *Natural resources.* The child should come, through the study of geography, to know the heritage of wealth supplied by nature in the fertility of the soil, the forests, rivers, lakes, mines, etc., which man uses to build the material side of civilization.

4. *Industries.* Work is one of the greatest and most universal of human interests. Through work man seizes upon natural resources and energies and out of them constructs the necessities, comforts and luxuries of life. Acquaintance with this world of industry should come to the child through geography.

5. *Sources of food, clothing and shelter.* These are three great fundamental human needs. Geography should enlighten the child concerning their production and use.

6. *Travel and transportation.* Modern inventions and discoveries and the growing wealth of nations have brought all parts of the world into touch with one another. People travel from place to place and merchandise is shipped to the ends of the earth. Every person of intelligence must understand this current of activity, and the highways of trade and travel.

7. *Peoples and places.* The fact that modern means of transportation and communication bring the whole world to our doors makes it imperative that we know something of peoples and places distant from us. Important countries, states, cities, political units, races and nationalities are to be studied through geography.

**Attitudes to be developed.**—Geography touches so many sides of the child's life that it is especially fruitful in

opportunities for cultivating worthy attitudes and interests. Some of these are the following:

1. *Interest in the world of nature.* Geography brings the child to know and appreciate the fruitful earth, the world of growing things, the plants and animals that supply him food, clothing, shelter and other comforts. It leads him to the rivers, springs and lakes and bids him use, admire, enjoy. It acquaints him with the majesty of mountain and ocean. It causes him to wonder over the noisy power of wind and wave, and likewise over the quiet energy of the rain-drop, the dew and the frost. Through this awe, admiration and love of nature the child is laying one of the surest foundations for a true religion.

2. *Appreciation of the value and dignity of work.* Geography should bring the child to contemplate the world's work in its ceaseless round of service to his comfort and needs. To realize that a hundred workers have contributed, each his part, to the breakfast enjoyed by the child is to broaden his sympathy and understanding of life. It is also to make him feel his share and responsibility as a worker that he may repay the debt.

3. *Broader social interests.* Geography, like history, serves to cure the child of his provincial and local attitudes and interests. It should develop in him an interest in the people of other lands and their mode of life. It should excite curiosity as to their type of home life, their cities, churches, schools, and the whole range of their civic affairs. It should lead to broader sympathies and to admiration of the good qualities and achievements of other nations.

4. *Desire to travel and read.* A desire for broader reading and travel should be one of the best results of geography study. Once this desire is well grounded it will prove a strong factor in promoting growth and education, and will insure the cultivation of strong and worthy interests.

5. *Appreciation and enjoyment of the world.* The study of geography should add much to the enjoyment of life. It should help one to understand the meaning of Stevenson's,

"The world is so full of a number of things,  
I'm sure we should all be as happy as kings."

There are many persons who are living relatively narrow, sordid and barren lives simply from failure to enter into the wonderful world of nature, men and action about them. A proper study of geography should *open the child's eyes and heart to the appreciation of his world.*

**Skills to be trained.**—The study of geography should train certain definite skills, among which are the following:

1. Skill in quickly picturing in the imagination, or thinking, important places or peoples with their orientation when reading, listening and planning.

2. Skill in reading maps representing any portion of the earth or its products. This will include direction, scale, and topography, with the symbols for cities, countries, etc.

3. Skill in judging climatic conditions and their effects on the products or industries of different regions; as of frosts in subtropical regions, extended droughts, floods, tornadoes, etc.

4. Skill in planning business enterprises, vacation trips, travel, etc.

5. Skill in locating in the mind or on a map or globe the more important countries, cities, land and water forms, etc., of the earth. The following *minimum essentials* in skill for seventh-grade pupils in locating on an unlettered map are recommended by the Iowa Committee on Elimination of useless subject-matter:<sup>1</sup>

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<sup>1</sup> *Report, 1916, page 135.*

**"Continents.**—North America, South America, Europe, Asia, Africa, Australia.

**"Oceans.**—Atlantic Ocean, Pacific Ocean, Arctic Ocean, Antarctic Ocean, Indian Ocean.

**"Countries of North America.**—United States, Canada, Mexico, Central America.

**"States and Possessions of the United States.**—Home state especially, the remaining forty-seven states. Also Cuba, Alaska, Porto Rico, Hawaiian Islands, Philippines.

**"Gulfs and Bays of North America.**—Gulf of St. Lawrence, Gulf of Mexico, San Francisco Bay, Puget Sound, Chesapeake Bay, Hudson Bay.

**"Lakes of North America.**—Lake Superior, Lake Michigan, Lake Huron, Lake St. Clair, Lake Erie, Lake Ontario, Lake Champlain.

**"Parks.**—Yellowstone Park, Yosemite Park, Niagara Falls, Grand Canyon.

**"Cities of North America.**—Boston, New York, Philadelphia, Pittsburgh, Washington, New Orleans, Galveston, Chicago, St. Louis, Cleveland, Buffalo, Grand Rapids, Cincinnati, Minneapolis, St. Paul, Duluth, Denver, Salt Lake City, San Francisco, Seattle, Los Angeles, Baltimore, Havana, Detroit, Des Moines, Toronto, Montreal, Quebec, Winnipeg, Vancouver.

**"South America.**—Buenos Aires, Rio de Janeiro, Valparaiso, Andes Mountains, Amazon River, La Plata River, Orinoco River, Cape Horn, Argentina, Brazil, Chile, Columbia.

**"Africa.**—Suez Canal, Strait of Gibraltar, Mediterranean Sea, Red Sea, Egypt, Sahara Desert, Cape of Good Hope, Cape Town, Alexandria, Cairo, Nile River, Niger River, Congo River, Zambesi River, Pyramids, British Colonies.

**"Australia and Ocean Islands.**—Sydney, Melbourne, East Indies, New Zealand.

**"Asia.**—Japan, China, India, Siberia, Caspian Sea, Dead Sea, Himalaya Mountains, Mount Everest, Peking, Bombay, Calcutta, Tokio, Yokohama, Hong Kong, Vladivostok, Manila, Honolulu, Jerusalem, Yangtze River, Hoang Ho River, Ganges River, Euphrates River.

**"Countries of Europe.**—Austria-Hungary, Belgium, England, Ireland, Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Russia, Scotland, Spain, Sweden, Switzerland, Turkey, Wales, Balkan Peninsula.

**"Cities of Europe.**—Liverpool, London, Glasgow, Edinburgh, Dublin, Belfast, The Hague, Brussels, Paris, Havre, Lyons, Verdun, Rome, Venice, Florence, Genoa, Athens, Constantinople, Vienna, Geneva, Berlin, Hamburg, Bremen, Cologne, Petrograd, Warsaw, Moscow, Odessa, Madrid.

**"Seas and Straits.**—North Sea, Baltic Sea, Black Sea, Adriatic Sea, English Channel, Dardanelles.

**"Rivers.**—Thames, Rhine, Seine, Danube, Volga, Marne.

**"Mountains.**—Alps, Carpathians, Mt. Blanc, Mt. Vesuvius."

### *The Subject-Matter of Geography*

There is such an abundance of rich material available for the course in geography that no time should be wasted on trivial, empty or valueless subject-matter. Unimportant or out-of-the-way places not likely to be met in one's reading, business or travel should claim no time. The memorizing of the names of long lists of capes, bays, peninsulas, gulfs, straits, etc., of minor importance is a waste of energy, interest and opportunity, and therefore not to be required. All that is taught should have a very real and evident relation to the earth as the home of man. Any material that can not measure up to this requirement has no place in the course.

**First- and second-grade material.**—Geography will not, of course, form a separate branch for first and second grades. Nor will any formal geography be taught. The material will arise naturally out of the child's immediate contacts and experiences and will be used as a basis for reading and language work.

*Orientation.* Most children have some sense of direction, distance and location before they begin school. Some do not. All need to have this sense trained. The following should be taught and drilled upon by questions and games until all are certain and quick:

right hand (or direction)	west
left hand (or direction)	northeast
north	northwest
south	southeast
east	southwest

Drills may be based on direction of school from home, from church, store, etc. That the locations may be real to the child have him point or move toward various objects, buildings and the like as well as tell the direction.

*Natural environment.* This is not too early to begin teaching the child to see, hear and notice the objects about him. Observation lessons may deal with the following:

Place where sun rises	Shape of new moon
Place where sun sets	Full moon
Time of sunrise and sunset	Other shapes of moon
Direction sun moves	The stars
The sun at noon	Direction wind blows
Color of clouds	Snow and its crystals
Movements of clouds; wind	Sleet and ice
Thunder and lightning	Uses of rain

*Products and industries.* The child is not yet ready for formal distant geography, but his attention can be centered and his interest stimulated, by lessons based on objects immediately at hand; as for example:

Where does the sugar for your breakfast come from?  
 The leather for your shoes?  
 The cotton for your apron?  
 The orange for your lunch?

There will at this stage be no attempt to teach the exact localities for such products, but only to develop the idea of distance, other locality, and distant people at work to supply our wants.

**Third-grade material.**—The home community and its locality will supply the greater part of the material for this grade. No text-book is required. The aim should be to bring the child into immediate contact with nature, industries and people and lead him to observe and understand his immediate environment. The six classes of knowledge requirement listed on page 240 will suggest the outline of material.

*Orientation and maps.* The child should by this stage know the directions, and the location of many principal buildings and places in the vicinity. It is now time to begin the use of maps. Much depends on getting the first ideas of direction on the map right. Many persons who first studied the map while it was so hung that they faced the south have trouble all their lives to think of the top as north, the right as east and so on.

The first map that the child studies should be made on a large sheet of paper *placed on the floor*. The class should stand facing the north with the map before them while the teacher draws the school yard and places in it the school-house and a few familiar objects, keeping the scale accurate. The directions having been thoroughly learned on the map, it is then immediately to be hung up on the north wall with the children still facing it. The directions are again at once drilled over. The same process should be repeated the next day, extending the map to include the wider neighborhood around.

*Geography excursions.* Geography can not at this stage, or any stage, be taught solely in the school room. There must be excursions into the home neighborhood and trips

to near-by points of interest to bring the child into contact with the objects of study. Only in this way can he be taught to observe, and to understand what he observes. The excursion or trip will of course furnish a basis for later discussion and instruction in the class room. Among the objects and activities to be studied in the home-excursions are the following:

The local industries that supply food or clothing.

Sources of building materials, as lumber mills or yards, brick kilns, etc.

Streams, springs, valleys, hills, lakes, islands, woods, etc.

Public buildings, such as post-office and court-house, monuments, parks, etc.

Markets, depots, railway yards, showing transportation.

Local bridges, trolley lines, public highways.

Mines, mills, factories, dairies.

*Observation of the weather and its effects.* The weather, touching as it does the comfort and play of the child, is a source of never-failing interest. The pupils should be taught to read the thermometer and the barometer; to understand weather signals; to keep a record month by month of clear, cloudy and stormy days; to note the changing length of day and night; the change of seasons; the changes in plant life with seasonal changes; the animal's change in covering for the seasons, etc.

*Pictures.* The picture is an indispensable aid in teaching geography. The teacher should have an abundant supply of pictures gathered from many sources to illustrate every phase of the teaching. The pupils should be taught to make similar collections of cuts, views, post-cards, etc., to enrich and illustrate their study. Much excellent material of this kind can be had at no expense save the trouble of collecting it. Some of the sources available are: pictures in magazines, travel guides issued by railways, booklets sent

out by commercial clubs, post-cards, pictures published by mills, factories and commercial concerns, government publications.

**Fourth- and fifth-grade material.**—The fourth and fifth grades cover the period usually devoted to the study of a first book in geography. In many schools the text is not introduced until the fifth year, the fourth year being devoted to an extension of home geography and the gaining of certain broad ideas about the world as a whole. Whichever the plan adopted, care must be taken that the child shall be kept close to objects and realities, and not be taught a mere text-book presentation of geography. Content must not be supplanted by an empty form of words when the book is taken up.

*Extension of home geography.* Lines of study already begun should be continued. The pupils should draw maps of familiar places, and use outline maps to locate places and products until they are entirely at home in reading or using a map. Weather observations and records should be continued, and weather reports studied day by day for other regions of the country. Ideas of direction and distance should be still further developed, and applied to locating places of interest and importance. By this time the child should have a rather complete and accurate knowledge of the geography of his immediate locality. This should now be extended to include the broader region, such as the county, and finally the state. Trips that different members of the class have taken can be made to yield interesting facts and descriptions. Trips that are in project can be prepared for and rendered much more interesting and fruitful by suggesting points for observation and later report to the class.

The great thing in continuing the home geography is to *keep the child's knowledge and interests constantly expanding*, and not dull the enthusiasm by repetition of matter al-

ready covered. Growth can come only out of new and broadening experiences.

*Reaching out to the broader world.* While the child's geography should begin with his home it must not stop there. Whether it is best to proceed from the home geography gradually outward to the geography of the state and then to that of North America, or to go at once from local geography to the concept of the earth as a whole is a question not yet definitely settled. Probably it does not greatly matter, so that we do well whichever we do. It would seem, however, that there are some advantages in teaching the fourth-grade child about the earth as a ball floating in space. His imagination is by this time capable of understanding it, and he will then be able to use the globe to some advantage in his further study. Such a concept must of course be presented to the child with much concrete illustration by means of balls and globes. His imagination and understanding must master it, or the empty fact is worse than useless to him.

*The text-book material.* The elementary text-book furnishes a problem for the teacher. Because the material must be brief, some authors have simply abbreviated and skeletonized their matter until they have taken all the life out of it. What is often left is a set of dry facts that have little meaning or reality to the child. The task of the teacher is to make this material *live*. To do this, it will be necessary to limit the topics discussed to a smaller number than those given in the average text, and then develop the topics chosen fully enough so that they will possess interest and significance.

During this stage the industrial phase of geography rather than the political should be featured. By the time the fifth grade is finished the child should know where the most

of his food supply comes from and how it is produced; where his clothing is grown, where it is manufactured and under what general conditions; the great trade routes by land and water and the chief articles of commerce transported. He should also know the great climatic regions and their general effect on products and industries.

**Sixth- and seventh-grade material.**—Most courses of study plan to complete geography in the seventh grade, some in the sixth. A few continue it through the eighth grade; this should not be necessary. A complete text covering universal geography is usually employed, but the matter presented should be vastly broader than that contained in any text-book. The children's reading in books, magazines and newspapers should be freely used to contribute material. Events of importance, as wars, great commercial enterprises opening up new territory, irrigation or reclamation projects, the building of new railways or public highways, great fires, floods or other disasters all supply material and motive for the geography class.

*Study of North America.* In cases where geography is to run through the seventh year the work of the sixth year should center on the study of North America. Many of the topics taken up will, of course, need to extend into other countries, but the emphasis will be placed on the home continent.

From the sixth grade on the work is most successfully based on a topical outline. This will permit the use of the text and also allow the matter gleaned from outside sources to be organized as a part of the course.

*Europe.* Approximately the first half of the seventh year should be given to a study of Europe. This continent stands next after North America in interest and importance. Its peoples, products, climate, industries, commerce, places of

interest and governments should be the center of emphasis. The relation of these factors of European geography to American life should constantly be stressed.

*The remaining divisions.* South America, Asia, Africa and the major islands remain for study. Of these, South America, because of the increasing closeness of our commercial relations with several of its countries, should receive the most attention. A general view of the more important features of Asia, Africa, Australia, etc., will suffice.

**What to eliminate.**—It is as important to know what to omit as what to stress in geography. In the older day the children were overburdened with detail which meant nothing to them. Many are still thus overburdened. It would be impossible of course to make a catalogue of all that should be omitted from geography. The principle, as suggested earlier in the chapter, is to *omit whatever has no significant, vital and demonstrable relation to man's effort to make the earth his home*. A few illustrations of this principle will suffice:<sup>1</sup>

*Mountains.* Omit ranges except Rocky, Sierra Nevada, Cascade, Appalachian, Andes, Alps, Ural, Pyrenees, Caucasus, Himalaya. Omit peaks except Rainier, Shasta, Hood, Washington, Pike's Peak, Cotopaxi, Blanc, Vesuvius and Everest.

*Rivers.* Omit all except St. Lawrence, Hudson, Potomac, Mississippi, Missouri, Ohio, Arkansas, Rio Grande, Colorado, Columbia, Yukon, Mackenzie, Saskatchewan, Orinoco, Amazon, Plata-Parana, Hoang, Yangtze, Ganges, Indies, Euphrates, Volga, Danube, Rhone, Seine, Thames, Rhine, Elb, Nile, Niger, Zambesi, Kongo, principal rivers of state and county.

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<sup>1</sup> Adopted in the main from the *Report of the Minnesota Committee on Elementary Course of Study*, and the *Report of the Iowa Committee on Elimination*, 1915.

*Lakes.* Omit all except Superior, Michigan, Huron, Erie, Ontario, Great Salt Lake, Winnipeg, Titicaca, Caspian Sea.

*Capes.* Omit all except Cod, Hatteras, Henry, Horn, North Cape, Land's End, Good Hope, Verde.

*Cities.* Omit all capitals of states and of foreign countries except when commercially or otherwise of enough importance to warrant their inclusion. Omit all but about sixty cities in the United States, selecting those to be taught on the basis of size, location, and commercial, historical or political importance. Proceed on the same principle in other countries.

The process of elimination should also extend to peninsulas, gulfs, bays, straits, islands, etc., and to all minutiae of secondary importance.

### *Organization and Presentation*

No other subject offers the teacher greater opportunities than geography, and none more fully tests his ingenuity and skill. For geography touches a range of topics almost as broad as human experience, and these topics are all to be definitely related in their study to the genuine interests of the learner. The teacher therefore needs a broad range of ready information, a spontaneous and abounding interest in the world about him, and a true insight into the minds of children.

**The geography recitation.**—The geography recitation, dealing as it does with the actual and concrete, should never become formal or mechanical. There is no place here for sheer memoriter answers to cut-and-dried questions from a text-book. This does not mean that the book itself should not be mastered; it should be. But the realization must always be present in the minds of teacher and class that

the *real* material is not in the text-book, but consists of the earth and its people.

The recitation in geography should have the spontaneity of an interesting conversation. All should take part. All should ask questions. All should answer questions. All should help plan the excursion, or formulate the problem. All should contribute something of information from observations made, lessons studied, trips taken, or books and magazines read. Reports should be made, problems discussed, stories read by all. Each must contribute his share, and the teacher must direct and organize all this material as it comes, so that it may not lose its effectiveness from lack of cohesiveness and unity. Such a recitation, requiring so wide a range of material and so great a variety of treatment, places a great strain on the teacher's skill. The ill-prepared or ambitionless teacher will shirk the opportunity and teach only the routine of the text-book. The teacher of ingenuity and power will make the geography recitation a source of joy and means of marvelous growth to his pupils.

**The teacher's preparation.**—Under the older type of geography, which consisted chiefly of a definite array of facts about *locations, sizes, divisions*, etc., the teacher could prepare for his recitation by mastering the text-book. That contained all the material and nothing was expected outside. But the newer geography sets an entirely different problem. In it, even the best of text-books are more or less incidental. Geography has become a laboratory subject. Things are to be met at first hand, and a hundred sources constantly drawn upon for information.

The teacher of geography, if he is to be more than an ineffectual hearer of empty recitations, must therefore know his world and its activities. For example, suppose the teacher takes his class on a trip to a flouring mill. He must know the history of the wheat that makes the flour, its

types, grades, where produced and so on. He must know enough of machinery to understand the process of manufacture. He must know enough of commerce to know the wheat and flour markets, and the transportation systems by which they are marketed. He must know enough of foods and cooking to understand the use of flour. And so for each of the objects, problems or industries studied. Otherwise the excursions and trips will degenerate into mere puttering waste of time, and geography will have failed of its aim. Let the teacher of geography therefore earnestly set at work to *master his world of environment at first hand*; it is well worth the effort.

**Teaching children how to study geography.**—Many texts of geography are written chiefly as statements of so many facts. The great difficulty is to keep the pupils from learning these facts without imagination or comprehension, as empty memory exercises. This calamity can be saved only through teaching the children how to study.

The geography lesson which is based on the text-book should first be carefully gone over by teacher and class together with books open. Together they should hunt out and discuss the important points of the lesson. Assignments to library books or other material should be made. Any maps that are to be drawn should be decided upon. The teacher's explanations on obscure points should be given and any other necessary help rendered. The teacher himself may take the text and indicate to the class how he would prepare the lesson. If objection is made that all this takes time, the answer is that whatever time there is for the recitation should be used to the greatest possible advantage. *And there can be no more valuable use made of time than in teaching children how to study.*

**Problem study.**—Geography should be used to teach children to think. Indeed, very early in the course pupils

should be led to see that the greater part of geography is not something to be *remembered*, but something to be *observed, discovered, thought out, understood*. To this end definite problems should be set, help rendered in collecting data bearing on them, and training given in their solution.

For example, the class learns that Minneapolis is a great flour producing center, and Detroit the center of the automobile industry. *Why?* New York has so far steadily outgrown San Francisco. Will it continue to do so, and if so, *why?* We find that the greater part of the trunk railway lines cross the country east and west instead of north and south. *Why not the reverse?*

Such problems should be *developed* by teacher and class, or better still, formulated by the pupils themselves. A problem set by the teacher, with no particular interest in the question on the part of the class, may be as formal and empty an exercise as could be devised. The following are problems that have been successfully studied by classes in geography:

Why does Argentine lead the South American countries?  
Why should the United States control the Panama Canal?  
If Florida can raise as good grapefruit as California, which will lead in the industry?

Why do the plains east of the Rockies have little rainfall?  
Why has Pittsburgh developed great steel industries?

The ingenious teacher will have no difficulty in discovering an abundance of such problems suited to the different grades.

**The use of maps.**—Maps, outline and relief, are of the greatest help in teaching almost every phase of geography. They enable the eye to assist the mind by taking in through vision the location of places, peoples, resources, products, etc. They aid in fixing ideas of size, distance, direction.

They tend to objectify and render more concrete many facts that would otherwise merely be memorized but not understood. They allow the children to have something to *do* in filling in the maps as they learn the matter to be used.

Outline maps should be supplied the children for certain uses. But the pupils should also be taught to make their own maps, and to mold relief maps to show topography and drainage systems. One map may be used to show leading cities, and transportation routes; another to show chief products; another to show climatic regions and areas of greatest rainfall, etc.

**Through imagination to reality.**—As soon as the study of geography passes from the local community to the larger world outside the child must depend on his imagination to make verbal descriptions over into real objects. Many children fail at this point, and the people and places they read or hear about never become clear realities. Probably every child finds his imagination taxed beyond its power in trying to understand mountains, or the ocean, or a great city, without having seen these things. The writer had a large number of fourth- and fifth-grade children in Chicago schools compare the height of a mountain and a factory smoke-stack. After telling that a mountain is "an elevation of land one thousand or more feet in height," nearly half of the children said that the chimney was the higher. Some explained that "if the mountain went straight up like the chimney it would be the higher."

The childish imagination easily seeks to account for many natural phenomena in strange ways. About three hundred high-school students were asked to describe their earliest notions about the following:

The earth, size, shape, interior, etc.

The ocean, depth, waves, saltiness.

The horizon, where it is, and what.

Rivers, where the water comes from and goes.

Islands, base, height above water, etc.

Whether lakes, rivers, islands, etc., studied on the maps were thought of as real.

About half the three hundred confessed to thinking of the earth as extending only to the horizon. Half of them thought it was a flat surface. A fourth of the number had pictured the earth as resting on some support, as a platform, a great table, or the shoulders of Atlas as seen in pictures. Some thought of the ocean as having no bottom; others thought of it as the depth of the brook that ran near their home. A goodly number had heard (and believed) a story about a fabulous salt mill that had been thrown into the ocean and kept on producing salt. Many thought the waves were caused by ships, and that the tides were solid walls of water moving across the ocean. More than half believed the horizon to mark the "jumping off place." A few had set out in good faith to walk to it. Many thought of the water in the rivers as coming from the ocean. Nearly half declared that rivers, lakes, etc., studied on maps were to them only "so many black streaks," and never thought of as real. A surprisingly large number thought of islands as floating on top of the water.

These testimonies of vagaries of childhood imagination suggest the need of constant care and help to insure the eradication of wrong ideas and the forming of right ones.

### QUESTIONS AND PROBLEMS

1. Recall the way you were taught geography. Did the method agree with the point of view of the chapter? How near is the point of view of your teaching of geography to that of the chapter? Are there points in the chapter with which you do not agree?

2. Have you found children who had difficulty in knowing direc-

tions on the map? If so, was it due to erroneous first impressions by having the map hung elsewhere than on a *north* wall at first? Why is it better first to *make* a simple map with the paper on the floor?

3. What field trips or excursions have you taken with your pupils? Did you prepare for the trip by previous discussion? Did you discuss the trip after your return?

4. To what extent do you correlate geography with language? Reading? History? Agriculture? Do your pupils know their home geography well?

5. Make a careful study of the "minimum requirements" and the recommendations for elimination, and compare with the material you are teaching. Do your pupils seem to use their imagination and make real the places and peoples studied?

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## CHAPTER XV

### HISTORY

THE study of history is especially important in a nation like ours, which depends upon the intelligence of its citizens for government and institutions. Because America is young among nations it lacks the wealth of traditions and historic personages possessed by older countries. Yet our history, short though it is, is a record of marvelous achievement probably never before matched in historical records.

#### *The Aim—What We Seek Through the Study of History*

Every child is at first provincial in his sympathies and knowledge. His earliest experiences are bounded by his family relations. Then he comes in contact with a small community group. Later, with the school and the broader community. But all this is still too narrow a field of social stimuli.

The child needs to awaken to people and times beyond the here and the now. He needs to have his imagination fired and his ambition stirred by heroic action and worthy deeds of men and women far removed in time and place. He needs to feel the debt he owes to generations long since dead, for their gifts to him. He needs to realize what country, freedom and security have cost. He needs to awaken to the fact that he is kin to those outside the range of his immediate knowledge or acquaintance; that he is part of a

great onward moving procession of human beings, each linked to all the others by unbreakable bonds.—This is all to say that the child needs to study history. The study of history should yield certain *knowledge*, *attitudes* and *skills* which we shall next discuss.

**Knowledge to be sought.**—Of course no person can have a complete knowledge of all history, for it includes a record of too great magnitude. Neither are all the facts of history worth knowing, or necessary to know for our present enlightenment and guidance. Especially is it true that not all history is suitable for children to know. Much of it is beyond their grasp and not adapted to their minds' needs. Our problem is therefore one of selection in order that we may find the most fruitful material. Our teaching of history should supply *knowledge* that will lead to the following results:

1. Kindle the imagination and enlighten the understanding that they may reveal the significance and value of men, events and achievements of other times and places.

2. Give such a perspective and sense of values as will save from narrow provincialism and a self-centered dogmatism.

3. Enable one to interpret present-day social conditions and problems in the light of the lessons afforded by past social experience.

4. Render one intelligent in reading books, papers or magazines, and in sharing conversations or listening to public addresses which contain historical references.

5. Supply a fund of interesting information to serve as a basis for thought, memory or appreciation, and to guide and inspire in forming ideals or making plans for personal achievement.

**Attitudes to be developed.**—The attitudes developed

through the study of history are an important part of the aim. These should include the following:

1. Respect, reverence and appreciation for the men and women of the past who have made present-day civilization possible; a broadened and deepened human interest; an appreciation of the opportunities afforded to those who live in the present.

2. A spirit of pride in country and flag, and an ambition to play a worthy part as a citizen—a deep-seated, intelligent, active patriotism.

3. Personal ideals shaped and dominated by the great qualities of life and character revealed in worthy historic characters—moral standards.

4. Hatred of tyranny and oppression, and an intolerance of social injustice.

5. An interest in and love for historical reading, and for the study of all that concerns social welfare in the present day. That instruction in history has been a failure which has not developed a taste for reading history, current events, and other material dealing with human affairs.

**Skills to be trained.**—The study of history should lead to certain definite skills. Among these are:

1. Power to judge public men both as to character and ability, thus enabling one intelligently to determine his allegiance to leaders or those seeking political office.

2. Ability to understand and judge public events and policies, and thereby know on what side to throw his influence or give his vote.

3. Ability to take up, with a background of intelligence, any office of public trust and meet its problems in the light of past experience as revealed in history.

4. Ability to use historical allusions or illustrations accurately and effectively in conversation, writing or public address.

*Subject-Matter of History—What to Teach*

The field of historical material is almost infinitely rich, and therefore requires careful selection that it may meet the aims desired for its study. In general it must be said that much of the material offered in the grades of many schools has in the past been too formal and technical. It has been too generally a record of dry facts, and lists of relatively unimportant dates and events. It has been too largely a skeletonized account of the political and military phases of history, and too little a description of the social and industrial development of the people. It has given a mass of minute detail concerning matters often quite outside the child's interest, grasp or experience, and has omitted in large measure the more intimate and vital material that deals with the common life. When our children have had a right to expect living bread capable of stimulating interest and feeding the imagination, we have not infrequently offered them the dead stones that dulled the edge of appetite and failed to nourish the mind.

What, then, shall we teach? This is not the place to outline a complete course in history, but the suggestions which follow will indicate the point of view for selecting the material.

**First- and second-grade material.**—Formal study of history has no place in the earlier grades. History will not have a separate place on the program earlier than the fifth grade, and in some cases not before the seventh grade. In the first two grades whatever history is taught will be presented in oral story form in connection with the work in reading and language. This material most naturally grows out of the celebration of special days, such as:

Thanksgiving  
Washington's Birthday  
Memorial Day

Christmas  
Lincoln's Birthday  
Flag Day

Why the day is observed and how it should be observed will, of course, come up in connection with preparing for its celebration.

Other suitable material, especially for the second grade, is found in stories of pioneers, including those of local fame; stories of the Pilgrims and other early settlers; well-known national heroes; Bible stories; Indian stories. There should at this stage be no attempt to emphasize the wider historical significance of the characters, but only to broaden the child's interest and increase his knowledge of people.

Many schools give a large proportion of the story time to Indian stories, presumably because it is supposed that the child will best comprehend simple primitive life. There is reason to doubt, however, whether the child of to-day is able to understand primitive Indian life and customs as well as the life and customs of more civilized peoples. The further fact that the Indians are an unimportant and decadent race would suggest that their stories should not be given more than their fair share of attention.

Pictures should from the first form an important phase of history material. The eye is more easily impressed than the verbal memory. The picture also serves to give reality and significance to the story of a life or an event, and helps the imagination vivify and realize the facts described.

**Third- and fourth-grade material.**—The material for these grades is to be determined in part by the child's interest and grasp, and in part by the best correlations with literature and language. Most schools emphasize Hebrew, Greek, Roman, Norse and English history material more than American at this stage. The reading material abounds

in stories and myths dealing with the national heroes of these peoples. The child is ready to respond with keen enjoyment and appreciation to these historical tales. They also open up to him a new world for his imagination and broaden his knowledge of human nature. Yet in dealing with other times our own national and local characters must not be neglected.

Text-books should not be required for these grades. Yet a considerable number of schools successfully use some simple text of historical stories in the fourth grade as a part of the reading material. The following topics suggest the type of material adapted to third and fourth grades:

Hebrew stories, as of Joseph, Moses, David.

Greek stories and myths, as of Ulysses, Alexander, the Greek gods.

Roman stories and myths, as of Horatius, Cincinnatus.

Stories of the Middle Ages, Canute, Alfred, Bruce, Har-round.

Stories from English history.

Great Americans, explorers, statesmen, inventors, writers.

National holidays and their significance.

Indians and pioneer life.

State and local biography and history.

In the use of all this material the main objective is to cultivate the historical sense, stimulate the imagination and captivate interest, rather than to present any connected account of nations or events. The time for a consecutive view of history has not yet arrived, and to attempt it would defeat the whole purpose of history teaching at this stage. Pictures should be freely used to supplement the stories and biographies.

**Fifth- and sixth-grade material.**—By the time the child has reached the fifth grade he should have acquired considerable historical knowledge, chiefly of the biographical

type. He should now be ready for a somewhat more definitely organized view of history. The prevailing tendency at present is to devote the fifth year mostly to American history and biography, and the sixth year either to American or to a combination of American and English history.

There are now available a number of reasonably satisfactory texts to put into the hands of the pupils. In many schools these books are made a part of the reading, literature and language course. However the work is arranged, the *historical meaning* of the material should now be stressed, and the child's feeling for history gradually developed. Yet care must be used not to present problems beyond the child's grasp. The following is typical material from American history suited to these grades:

Story of Lief the Lucky  
Explorations of Columbus  
Drake, Raleigh, Cortez, De  
Soto

John Smith and Pocahontas  
How the first settlers lived  
Their relations with the In-  
dians

Puritan days and ways

King Philip, Tecumseh,  
Pontiac

Peter Stuyvesant and the  
Dutch

William Penn and the Quak-  
ers

Oglethorpe and the South  
Heroes of the Revolution

Great events of the Revolu-  
tion

What the Revolution settled

Starting the new republic

Daniel Boone and the West

Jefferson and the Louisiana  
Purchase

Lewis and Clark expedition

Fulton and the steamboat

The first railroad

The invention of the tele-  
graph

Webster, Clay, Calhoun

Lincoln and the Civil War

Grant, Lee

McCormick and the reaper

Whitney and the cotton gin

Howe and the sewing ma-  
chine

Bell and the telephone

Longfellow, Whittier, Bry-  
ant

Emerson, Hawthorne, Irving

Building of the West

Early history of home state

Local community history

In presenting English history no attempt should be made at this time to teach the consecutive political history of the nation, but only such personages and events as are outstanding in their importance. Greater stress will naturally be placed on such phases of English history as are most closely related to American history. Such material is best correlated with the points in American history which were influenced. Again let it be urged that pictures be freely drawn upon to give life and reality to the descriptive material.

**Seventh- and eighth-grade material.**—If the child has been well brought up to this stage he ought now to be ready for a somewhat serious study of the history of his country and his native state. This does not mean that the material must be dry and technical. The time has not yet arrived for a minute study of political and military affairs. The subject-matter should deal with the broader problems and movements of history, with social and industrial progress, and with great and inspiring characters of national renown.

The subject of history, which up to the seventh grade has been correlated with literature and language study, should now have a separate place on the program. The two remaining years of the elementary school are none too much time for national history, state history and civics.

*Discovery and exploration of America.* In the earlier grades the child has had only biographical sketches and disconnected stories of this period. He should now pursue a connected account of the major situations and events which gave the world a new continent. The following are the more important topics for this period:

Geographical knowledge prior to Columbus.  
Story of "Harold the Fair" and "Eric the Red."  
Trade demands for a western route to India.

Review story of Columbus and the Cabots.

Story of Americus Vespucius, Balboa, Magellan.

The Spanish explorers.

The French explorers.

The English explorers.

The Dutch explorers.

*The period of settlement.* A detailed study of colonization should be restricted to the following four colonies, which represented all the distinct types:

Virginia (The South)

Massachusetts (The Puritans)

New York (The Dutch)

Pennsylvania (The Quakers)

A brief account should be given of the Indian troubles met by the colonists.

*The period of revolution.* The material should be selected rather to give an understanding of the causes and issues involved than to trace minutely the military operations. Emphasis should be given to such topics as these that follow:

American desire for representation in Parliament.

Trouble over taxation.

The struggle for rights.

The Continental Congresses.

Battle of Bunker Hill.

The Declaration of Independence.

The struggle for liberty.

*Development of the Constitution.* Under this topic the aim should not be to make any technical study of the theories proposed and the controversies waged concerning the Constitution. The purpose is rather to show how America, separated from England, must form a government for herself. Emphasize the ideal of democracy. Stress leading

personages connected with it. Give a general idea of the plan of government which it provided. Take stock of the resources, population, territory and problems of the new nation.

*Growth of the nation.* Stress such topics as the following:

Early laws passed by Congress.

Problem of the public debt.

Outline of the earlier administrations.

Jefferson and the Louisiana Purchase.

The Monroe Doctrine.

Opening up the Northwest Territory.

Industrial development up to Civil War.

Growth of important cities.

Opening up of railroads.

Development of agriculture and manufactures.

Building of the West.

*Slavery, secession and Civil War.* Select such material as will show cause and effect running through the slavery and states' rights questions, and on to secession and war.

Origin and growth of slavery in America.

Drifting apart of North and South.

Various slave laws and troubles.

Struggle for power in Congress.

The Mexican War.

Election of Lincoln.

The beginning of secession.

Firing on Fort Sumter, beginning of war.

The call for troops.

Comparison of strength of North and South.

General plan of war.

Leading generals.

Chief battles and turning point.

The Emancipation Proclamation.

Surrender of Lee.

Death of Lincoln.

*The reconstruction period.* Here again stress the dramatic problem involved and the movement of major events rather than technical politics:

Lincoln's plan for receiving the South back.

Trouble with Johnson; impeachment.

Amendments to the Constitution.

Conditions in the South; carpetbaggers; Ku Klux Klan.

Southern representation in Congress.

Later national growth and development.

*Current history.* Constant use should be made of papers, magazines and books to study contemporaneous personages and current events. One of the chief purposes of the study of history is to develop the habit of keeping in touch with present-day life. This phase of the work should therefore have explicit attention and emphasis.

*State and local history.* Every state and community has its own local history which should become a part of the education of all its citizens. Many states now have excellent texts of local history. Others distribute historical pamphlets and similar material through some state historical society or the office of the state superintendent. The ingenious teacher will have no difficulty in finding an abundance of interesting matter for such work.

**What to omit.**—Many of our text-books in history have been too detailed and technical in certain phases of the matter offered the child. Unimportant dates and events have been required, and details of political policies and events given which are beyond the child's grasp and not highly important in themselves. An excess of military history has been insisted upon, with minute accounts of campaigns and battles. The result has been a large amount of dry and uninteresting matter.

Much of this material should be eliminated in favor of

vital matter that deals more directly with social, economic and industrial history. The following recommendations for omission are in accord with action recently taken by the Minnesota and Iowa state teachers' associations:

*Wars.* Limit the study of wars to their remote and immediate causes; their general geography; resources and problems of nations involved; general plan of military operations; a few critical battles; important leaders; what the war settled, and the after effects; cost in men and treasure. This plan will reduce the war phase of history study by more than half.

Eliminate the detailed study of battles except: Battle of Quebec; Lexington and Concord; Bunker Hill; Saratoga; Yorktown; Lake Erie; Merrimac and Monitor; Gettysburg; Vicksburg; Manila.

*Dates.* Limit the memorizing of dates to events of central importance like the following: 1492, discovery of America; 1607, settlement of Jamestown; 1619, slavery introduced; 1620, Pilgrims land at Plymouth; 1643, confederation of colonies; 1775, Lexington, Concord and Bunker Hill; 1776, Declaration of Independence; 1781, Cornwallis surrenders; 1789, first Congress; 1793, Whitney's cotton gin; 1803, Louisiana Purchase; 1807, Fulton's steamboat; 1812, war with England; 1820, Missouri Compromise; 1823, Monroe Doctrine; 1826, first railroad; 1844, first telegraph; 1846, sewing-machine invented; 1845, first reaper; 1846-48, Mexican War; 1861, secession and Civil War; 1863, Emancipation Proclamation, Gettysburg, Vicksburg; 1866, Atlantic cable; 1876, first telephone; 1878, electric light invented; 1898, war with Spain; 1903, first wireless across Atlantic; 1914, world war in Europe.

*Other omissions.* Detailed provisions of various tariff acts (but the meaning of tariff should be understood); details of political campaigns except Jefferson's, Jackson's,

Lincoln's and any current campaign in progress; critical study of political party principles (but give broad distinctions between chief rival parties); financial panics except those of 1837, 1873, 1893.

### *Organization and Presentation*

The great problem in the presentation of history is to make it *live*, to cause the child to recreate through his imagination the splendid drama of *human action* which history describes. Instead of a set of unreal (or at least unrealized) facts of persons or dates, we are to bring the living, moving, aspiring, sacrificing, achieving men and women of past and present into being and reveal them engaged in the building of civilization. If the history we teach does not thrill the imagination, stir the blood and kindle ideals and ambitions there is something wrong. For right material skillfully presented will do this very thing with normal boys and girls.

**Creating an atmosphere of reality.**—The first requisite of good history teaching, therefore, is that it shall create an atmosphere of reality. This can be done in part by direct appeal to the imagination of our pupils. Pictures are also of great service in this connection. Free and spontaneous discussion by the pupils is a clarifying factor. The conversation may turn on the motives back of a certain line of action; as *why* Washington did this or Lincoln that; what would have happened if some other action had been taken; how Grant felt and how Lee felt at Lee's surrender; Fulton in his workshop busy on parts for his steamboat; a passenger on the first railway train, etc.

**Dramatizing.**—Wherever possible, especially with younger pupils, history should be put into action. It will have a reality and also a significance in this way which

can not be secured from mere reciting. Scores of situations and events in history easily lend themselves to such treatment. Nor should the *merely* sensational or striking be selected for dramatizing. For example, Washington and a group of his soldiers at Valley Forge is a situation of much more value than Washington with his hatchet.

The Boston tea party; the Continental Congress; signing of the Declaration of Independence; Washington's farewell address; Lincoln's Gettysburg address; signing the Emancipation Proclamation; an Indian attack—all these are but a bare suggestion of the opportunities for dramatization open to the ingenious teacher. For special days and occasions, historical events, anniversaries or periods may be presented in the form of a *pageant*, the whole school (and perhaps many of the community) taking part. This is but dramatization on a larger scale.

**Training to think.**—Whatever the method or device employed, we must never forget that the study of history should train pupils to *think*. Even very early in the course the idea should be planted that things do not *just happen* in history. All events are preceded by their causes, and every cause is sooner or later followed by its effect. It is not, of course, meant that profound reasoning on these relations should be expected, but it is a relatively simple matter to show how the Civil War was for a century growing out of the slavery question and the differences in industrial and political views north and south. And so with many other causes and their effects. The point of view should be clearly developed that history is an unbroken succession of acts and events, each one caused by acts and events in the past, and in turn leading to other acts and events in the future.

This view of history will serve to link the present to the past and cause the child to realize the debt he owes to those

who have built for him the wonderful civilization which he enjoys. It will also help him realize that this debt should be paid by loyalty to his generation and those that are to follow.

**Correlations of history.**—History is rich in its correlations. Literature has seized upon historical events and leaders as themes and immortalized them in poetic or prose masterpieces. Furthermore, every great piece of literature, no matter what its theme, breathes something of the spirit of its times, and can not be successfully studied without a knowledge of the social or historical situation out of which it grew.

The geography and resources of a country are responsible in no small degree for its history. Hence history and geography naturally correlate, and should be taught, at least after the fourth or fifth grade, in close conjunction with each other.

**The use of supplemental material.**—While children should have a good text-book as a basis for their work in at least the seventh and eighth grades, there is also need of much supplemental material. Special chapters in other texts, cyclopedias, historical pamphlets, magazine articles, newspapers and historical novels are some of the sources available. Special assignments should be made to these sources and reports and discussions given before the class.

A caution should, however, be observed at this point. The class never ought to be required to listen to a report that does not contain valuable material or to one that is poorly organized or presented. The teacher will need to work with pupils on the reports in order to insure a high standard. Such work may well correlate with language study and receive credit in the language class. The constant use of supplemental material will broaden the child's con-

cept of history, and tend to develop the habit of historical reading.

**Topical reviews.**—After a general view of American history is obtained an excellent method for review is to take certain important topics and trace their development from their beginning up to the present. Suppose, for example, we have chosen for one of our topics, *The development of transportation and communication*. The following points might be taken up under it, thus tracing the evolution of the means of transportation and communication:<sup>1</sup>

The "Pony Express," the trail, the packhorse.

Building of national highways; the buckboard; the carriage.

River and ocean steamboats; new trade routes.

Early railroads; linking East to West.

Telegraph and cable; Atlantic cable; Pacific cable.

The daily paper; magazines.

The telephone.

Wireless telegraphy and telephony.

Panama Canal.

The automobile.

Flying machines.

Many other topics suitable for such treatment will occur to the teacher. Among them are:

The expansion of territory.

Wars in which the United States has been engaged.

The development of public education.

The movement westward.

Slavery.

Relations with other countries.

In assigning these topics the teacher should work out with the class the sub-points belonging under each and then show

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<sup>1</sup> Cf. *Indiana, Course of Study*, 1916, page 185.

the class how to collect and organize the material studied. Note-books can be used to excellent advantage in this type of study.

### QUESTIONS AND PROBLEMS

1. After considering carefully the knowledge, attitudes and skills suggested as the aim in teaching history, determine whether others should be added. Do you attempt the definite attainment of such aims?

2. What methods do you employ to connect the history of the present with that of the past? What journals of current events do you use in your work? Are your pupils developing the habit of reading historical books and articles?

3. Make a list of the great Americans the story of whose life you think a pupil finishing the fifth or sixth grade ought to be able to tell or write. Of important men or women of other countries. Of these and your own state. Can your own pupils do this? Do they know the history of their state?

4. To what extent have you used dramatization as a help in history teaching? What particular correlations do you make between history and literature? History and geography? Do you and your pupils enjoy the history hour?

5. Study carefully the recommendations for elimination, and compare with the material offered in your history text. Do you find too great a proportion of wars and politics? If so, consider how to supplement so as to give more of the social, economic and industrial history.

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## CHAPTER XVI

### CIVICS

THE education of every American child should include instruction in the fundamentals of civic rights and duties. Because of the nature of our government and the character of our national ideals the success and perpetuity of our nation depend on an intelligent and loyal citizenship. True, the child will receive no small amount of civic training from his contacts outside the school, from home, community and the wider social relations. But he also needs certain direct, organized and specific training that he will in all probability lack if the school does not supply it.

An undoubted source of weakness in our national character is our slight respect as a people for law and authority, our lack of consideration for the personal and property rights of others, and our all too general indifference to many of the finer civic virtues. This weakness our schools should help correct.

#### *The Aim—What to Seek Through Teaching Civics*

First of all a distinction must be made in the elementary school between *civics* and *civil government*. Civics, as the term is used in this discussion, will refer to the common relations, rights and duties of people to civic character and its expression as they live together in an organized society. Civil government will refer to the mechanism and working of the government.

Children, as soon as they have reached the age of accountability, enter into many civic relations and responsibilities, and are then ripe for instruction concerning them. More than three-fourths of those who enter the schools never go beyond the eighth grade, and not more than half beyond the fifth grade. It is therefore imperative that certain fundamental civic knowledge and ideals be inculcated relatively early in the school course. The more complex facts of the civil government must naturally be left for later in the course.

**Type of civic knowledge required.**—Ignorance is the soil in which indifference and corruption thrive. The elementary school should teach such knowledge as will make intelligent, loyal, efficient citizens, ready to recognize the rights of others and capable of understanding and participating in our representative form of government. The knowledge required is such as will touch the individual's civic relations to his fellow men, his community, his town, his state and his nation. It should be of the sort that the common man or woman needs in order to do his or her part as a citizen even in ordinary, inconspicuous positions in life.

The information must be such as will enable one to know his civic rights and duties, and be intelligent in public meetings, in caucuses or at the polls; that will enable him to understand public questions and judge public problems and policies as outlined in the press or from the platform, and thus not be at the mercy of the demagogue.

This point of view will omit from elementary instruction all the more complicated and theoretical aspects of government, such as the study of constitutions, complex legislative and judicial procedure, and any other topics whose range and complexity are beyond the grasp and experience of children.

**Cultivation of civic attitudes and ideals.**—The cultivation of civic attitudes and ideals is not of less importance than the supplying of civic knowledge. Knowledge itself is not sufficient for the making of good citizens. There are now all too many who have expert knowledge of politics and government but who use this knowledge to defeat the ends of justice and humanity. Low ideals still lead many of our citizens to look upon graft and plunder as the natural correlate of office holding. The sale of votes and influence is not limited to the ignorant alone. A study of civics should teach every American youth that loyal service is the natural and right ideal for all citizens. This loyalty should reach not only to service as a soldier in defense of the nation, but should also be the common attitude and habit of life in times of peace. Public office should appeal to men and women as an opportunity to serve rather than as a chance to feed at the public crib. Political influence and the franchise should be held a sacred trust.

The school has a difficult task to inculcate such ideals while surrounded by contrary examples. And it must be admitted that unblushing trickery and political dishonesty are far too prevalent, and that this fact is known even to the school children of the present day. Though such conditions render the problem exceedingly hard, yet the question of cultivating right ideals of citizenship must be met by the school, else a fatal weakness will exist in our education and in the very foundation of our national life.

**Skills, or practise in citizenship.**—Many have thought that practical application can not be made by children of the study of civics. Such persons point out that the right of franchise and office-holding are not obtained until the age of twenty-one. This point of view overlooks the fact that voting or holding an office is but one of the many duties of citizenship. Even the school of which the child is

a member is itself a miniature society, and each pupil a citizen therein. In similar manner the life of every child touches in various ways the interests and organization of the community or the municipality. As these relations broaden with increasing age they extend to include the state and the nation. There is no lack of opportunity for every American child to enter upon the *practise of good citizenship* long before he has obtained the age of voting.

The great thing in cultivating right attitudes through elementary civics is to begin with what is nearest at hand, and what most directly touches the interest and life of the child in his relations with organized government and with general civic responsibility. Civics can, by taking the problems which lie close by, be made from the beginning a concrete laboratory study. From these beginnings the subject can then broaden until it includes the full set of relations by which the individual fits into his place as a citizen of the state, the nation and the world.

### *Subject-Matter of Civics—What to Teach*

The first introduction to civics should come very early in the grades. This does not, of course, mean that the children will at first have a text-book or that a separate place will be given on the program. The instruction will occur in connection with the stories of the language lesson, in the reading lessons, in the teaching of biographies, in the study of history, and in connection with school, community, municipal or other local public projects of common civic interest.

**Practical sources of material.**—At this stage the aim is not to teach the technical organization or workings of governmental machinery. It is to cultivate civic ideals, develop right civic attitudes, lay the foundations of civic

loyalty and begin the development of the concept of civic duty and responsibility. The sense of common civic problems and of community welfare may be well grounded at this time. Realization of the need of universal obedience to law may easily arise out of current examples of law-breaking and the harm that follows.

The relations of the school furnish an excellent opportunity for much concrete civic instruction. Universal taxation for education, compulsory education laws, free textbooks and supplies, the election of the school board and their authority, the voting of bonds for a new building, the obligation of pupils to make good use of opportunities provided at such cost and trouble—all these and many other common topics easily supply good starting points for instruction. For example, one boy who had wilfully defaced a schoolhouse wall was led to see that he had destroyed property which his father's and his neighbors' taxes had paid for and in which every person in the district had an interest. He at once volunteered to make good the damage out of his own savings. What better lesson could be had in civic honesty?

**Topics growing out of immediate civic relations.**—From the point of view taken, it is evident that the topics that should early be stressed will vary in different communities and schools. The principle, however, will be the same for all: *to seize upon the actual vital problems or movements of civic import such as are suitable for the child's grasp and interest, and make them the starting point for definite organized instruction in civic ideals and action.* All the better if the matters taken up are such as will permit the pupils themselves to have a real and active part in them. The following topics will serve as illustrations of this principle. The work will not require a text-book:

**Community interests in which young citizens can help.**

—1. Helping keep streets, alleys, roads and parks free from rubbish; avoiding trampling the grass in public places; defending public buildings, monuments, etc., from vandalism.

2. Good conduct on the street and in public places; courtesy to strangers and elders.

3. Obedience to quarantines; other laws for public hygiene, as spitting, common drinking cup, towels, etc.

4. A spirit of pride in the community and all its interests; a "booster" for all good projects.

**Cooperation for "safety first" idea.**—1. Reasons why whole community is interested in personal safety; cost of accidents; care of dependents, etc.

2. Risks by running or driving in front of railway trains; jumping freight trains or moving street-cars.

3. Dodging automobiles in street play; carelessness in crossing the crowded street; foolish speeding.

4. Caution around water; relation of caution and courage.

5. Suggestions for other safety first ideas.

**Laws that all should know and obey.**—1. Driving, speed and roadway rights.

2. Pure food, marketing damaged fruit, eggs, etc.

3. Posting signs on trees, telephone poles, etc.

4. Mowing weeds along property.

5. Keeping walks clear of snow.

6. Defacement of public buildings, etc.

7. Fish and game laws.

8. Quarantine laws.

9. Selling cigarettes or tobacco to minors.

10. Selling liquor.

11. School laws that affect pupils.

12. Concerning payment of taxes.

13. Classification and weights of mail packages.

14. Other laws of immediate interest and importance.

**The citizen's relation to public health.**—1. How health

depends on community cooperation; wrong of attending school when threatened with contagious disease.

2. Importance of pure food and water supply; selling impure milk, tainted eggs, spoiled meat, etc.; pure food laws.

3. Tuberculosis and spitting; unrestrained coughing and sneezing; elimination of refuse and reducing flies.

4. The citizen's obligation to keep well; cost of sickness; keeping health conditions good in home and school; the medical quack and his fake remedies.

5. Local problems of community hygiene which require attention.

**What the government does for its citizens.—**1. The protection of life and property; police force and other peace officers; the army; the navy.

2. Supplying opportunities for education; purpose; who pays the bills; how much; our response.

3. Guaranteeing liberty and opportunity; less favored nations; our obligations.

4. Generous treatment of poor and unfortunate; institutions, parks, buildings, etc., for all.

5. Public service; money system; postal system; building and caring for public highways; local examples of such public service.

**What citizens should do in return.—**1. All favors received put us in debt; payment in gratitude and service.

2. Honesty in all public trusts; cheerful payment of taxes without evasion or grumbling; engaging in useful occupation, even if wealthy.

3. Obedience to law; helping see that others obey; striking at graft and civic dishonesty; voting honestly; honest service if elected to office.

4. Loyalty in thought, word, deed; taking up arms if necessary for country.

5. Think of still other obligations of citizens.

**Good and bad citizens.**—1. Why class each of the following as a good citizen: Washington, Lincoln, Grant, Frances Willard, Horace Mann; Edison; select other good citizens, some of them local people, and tell why you choose them.

2. Why is each of the following a bad citizen: the man who does not vote; one who sells his vote; the farmer who does not cut his weeds along the roadway; one who violates quarantine; the boy who throws paper on the street; the tax dodger; the boy or girl who unnecessarily drops out of school; the family which permits a fly-breeding privy or manure pile?

Such topics as those above should, of course, wherever possible, be given a concrete and local application and not be taught as a mere theory. Examples will not be lacking for abundant illustrations and the children themselves should in most cases be given an opportunity to present illustrations or make applications. In many cases the topics may naturally arise from some immediate, pressing civic question in the community. This will make the lesson doubly valuable and effective. But *lessons on civic topics such as the above should have a definite place in all elementary school instruction.*

**Text-book work.**—By the time the child has reached the eighth grade (possibly even by the seventh grade) a text-book should be used for half a year of work. The general aim will be the same as in the oral work—to give the pupil the civic knowledge, attitudes and skill most nearly related to the problems he will confront as a citizen. Here as in the oral work the instruction should begin with the interests and problems nearest at hand; it should then lead from these on out to the affairs of the state and nation.

In the earlier grades the child is not taught the details

of the organization and workings of civil government. Before completing the common school, however, the pupil should understand the purpose of government and know the general methods of its operation in its various departments.

The emphasis in the later work may center about such topics as follow. The pupils should have a text-book, providing one of the right type is available:

1. Why we need a government (not theoretical).
  2. The units of government.
  3. Points illustrating our daily contact with civil government.
  4. The government of a school district.
  5. The government of a town or city.
  6. The government of a township.
  7. The government of a county.
  8. The government of a state.
  9. The government of the nation.
  10. Current civic problems and movements for study.
- These may include: the primary system of nomination; the initiative and referendum; the recall; woman suffrage; the short ballot; the Australian ballot system; prohibition; problems growing out of our foreign relations; military training and preparedness; the commission form of government for state or city; civil service versus the spoils system; doing away with special privilege and graft from politics; good drainage laws; laws for protection of land under tenancy system.

**Elimination of obsolete and useless material.**—The following material has no place in the course in civics for the elementary school:

1. The constitution of the United States.
2. The constitution of the state.
3. Detailed analysis of method of electing president.

4. Detailed analysis of the court system and its procedure.
5. Theoretical explanation of the division of powers.
6. Theory of bicameral legislation.
7. Technical details of how laws are made.
8. Names of unimportant state offices, with terms, salaries, etc.
9. All abstract political theory that has no direct bearing on good citizenship.

### *Organization and Presentation of Material*

The study of civics, as already suggested, should have its beginning in the common relations and duties of children with reference to school, community and home situations. The following account of one teacher's method of teaching civics in a small Iowa town contains a good suggestion:

**Applied civic instruction.**—With the help of the teacher the pupils were organized into a "Town Civic League," with a president and a secretary. The purpose of the League was to keep the streets and alleys clean and beautify the town. The League was divided into sections according to the part of the town in which the pupils lived. Each section competed with the others in showing the best results. The work of cleaning and beautifying was done evenings and Saturdays. On Friday afternoon the League held a meeting at the school. The president presided. Reports were made by the various sections and discussed. Further plans were laid and projects mapped out. The help of the town officers was sought on several hard problems and cheerfully rendered.

As a result of the work the town was made a model of neatness, community pride was increased, the pupils developed a civic spirit, and they learned much in the meetings

and discussions of their League. They also developed an enthusiasm for the study of civics *and for the practise of good citizenship.*

**Teaching civics at Gary.**—Probably the most interesting attempt at connecting school work with the daily life which is now going on in this country is at Gary, Indiana, under the direction of Superintendent Wirt. Doctor Dewey thus describes their method of teaching civics:<sup>1</sup>

“Gary schools do not teach civics out of a text-book. Pupils learn civics by helping to take care of their own school building, by making the rules for their own conduct in the halls and on the playgrounds, by going into the public library, and by listening to the stories of what Gary is doing as told by the people who are doing it. They learn by a mock campaign, with parties, primaries, booths and ballots for the election of their own student council. Pupils who have made the furniture and the cement walks with their own hands, and who know how much it cost, are slow to destroy walks or furniture, nor are they going to be very easily fooled as to the value they get in service and improvements when they themselves become taxpayers. The health campaigns, the application work which takes them to the social agencies of the city, the auditorium periods when they learn more about their city, all give civic lessons that make their own appeal. The children can see the things with their own eyes; they are learning citizenship by being good citizens.”

**Civics taught through life of school.**—The school, through its organization and social relations, offers excellent opportunities for civic lessons. The discipline of the school should grow *out of the needs and interests of the group* instead of the arbitrary demands of the teacher. There is no better place than the school to teach that one person's

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<sup>1</sup> *Schools of To-Morrow*, page 199.

liberties must end where another's rights begin. Right conduct must obtain because *the common good demands it*. Property must not be destroyed, because it belongs to all. Lying, cheating or poor sportsmanship can not be tolerated, because they affect the good name and welfare of the whole school. Idleness is immoral because it wastes opportunities which society pays for and puts at the disposal of the pupil. —These and a hundred other points of contact in the school are typical of the wider life outside and supply the concrete situations out of which instruction should spring.

### QUESTIONS AND PROBLEMS

1. Get the distinction between *civics* and *civil government* in mind and then answer the following questions: When and to what extent are you teaching civics in your school? Civil government? Some elementary texts deal too much with technical facts of government and not enough with civic affairs. How is your text on this point?

2. Is your school generally law-observing with reference to school and other regulations? Can good civic instruction be given in an atmosphere of lawlessness? Are the municipal and other laws well obeyed in your community? Do you find that the spirit of a community is likely to carry over into the school?

3. Have your pupils a feeling of pride in their school? In their town or community? Is this necessary to a good civic attitude? Is there a tendency to injure or destroy public property about the school or community? If so, how can such a spirit be remedied?

4. Are your pupils honest? Is there a tendency to cheat in examinations? Do you think that school morals are likely to carry over into life outside the school? What means do you take to create a spirit of squareness and self-control in the school? Are your pupils developing character?

5. In your teaching of civics do you begin with the near-at-hand? Do your pupils know the local office holders and their duties? The chief state and national officials? Are they interested in public questions, local and national? Does your instruction seek constantly to broaden this interest? Do you have your pupils engaged in any civic activities?

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## CHAPTER XVII

### PHYSIOLOGY AND HYGIENE

**P**ROBABLY no other branch in the elementary school so often fails to realize its true part in the education of the child as physiology and hygiene. This is not because the subject is more difficult or has been worse taught than other branches, but because the wonderful opportunities it affords and its vital importance to the individual have not been fully realized in our schools.

#### *The Aim—Results to Be Accomplished*

What, then, should the study of physiology and hygiene accomplish for the child? First of all let it be said that the aim is *not* "discipline" or "culture" or the filling of the mind with curious but relatively useless information which can have no direct bearing on physical living. It is, rather, to establish such habits of living as will result in *health and physical efficiency* for the present and the future, and *long life*.

More specifically, the study of physiology and hygiene should be aimed at the following concrete and definite results:

1. More complete growth and better physical development.
2. Greater freedom from disease and a higher level of health.
3. Higher physical and mental working efficiency.

4. Stronger, more perfectly controlled and more symmetrical bodies.

5. A good system of habits, physical and mental.

6. Longer and happier lives.

The efficient teacher will have these ends clearly before him and will constantly shape his teaching to their accomplishment. He will continuously put to himself the question: What is the *effective outcome* of my teaching this subject? He will keep asking: What matter shall I select and what methods shall I employ better to make my instruction *take hold*? And in how far are my pupils *living* differently and better because of their study of this subject?

**Type of knowledge required.**—This point of view requires that the knowledge taught shall relate itself directly to the physical life that the child is here and now living. The facts presented are to be chosen, not because of their general scientific truth or value, but because they bear directly upon the development, the health, the physical efficiency, the organic welfare of the learner. This is all to say that the core of the instruction will be *hygiene, and not technical physiology and anatomy*, as is too often the case. Text-books should be selected and courses of study made with this fundamental point of view in mind.

**Attitudes to be developed.**—The creation of right attitudes toward physical living is not less important than the supplying of fruitful knowledge. The child must be led to want to know how to live efficiently and avoid sickness and disease. He is to be made to feel the value and importance of the facts he learns, and to be brought to apply them to his daily living. He is to come to understand that the truths of hygiene are not merely to be "learned," *but to be lived*. In short, a set of attitudes is to be developed, interests cultivated and standards established which will lead to good habits of physical living. There should arise a keen per-

sonal pride in healthy, well proportioned, vigorous bodies; in good eyes, ears, teeth, etc.; in freedom from disease, colds, headaches, bad throats or other forms of morbidity. Such a respect for the workings of hygienic law should grow up as to compel obedience to this law even when it is in conflict with appetites, desires or established habits.

**Skills to be trained.**—The knowledge learned and the attitudes developed through the study of physiology and hygiene should, then, lead to greater skill in the art of living. The final test of effectiveness of our instruction will be the *effect* of what the child has learned—not the facts he can repeat, but *how many of these he is practising* in his daily life.

To illustrate, the child should through his study not only learn the cause of colds, but become able to detect the beginnings of a cold in himself and know how to cure it. He should become skilled in the daily care of his teeth, hair, nails, skin, and in attention to the various bodily functions. He should be able to avoid or correct bad bodily postures, lack of lung capacity and other such defects. With attention centered on health, growth and high efficiency rather than on disease or defects, the child should develop the skill and control with reference to his body that will make it a perfect machine for the carrying out of life's highest purpose.

All this is but to say that the knowledge learned and the attitudes developed should eventuate in right *habits* of physical living. And habits come only out of practise. Physiology should of all subjects, therefore, be an *applied* study. Its lessons should daily carry over until they guide in the health, efficiency and welfare of the child. Not to accomplish this result is to fail at one of the most fruitful opportunities offered in the whole curriculum.

In carrying out this point of view care will be exercised that the hygienic conditions of the school itself do not ne-

gate the instruction. The children must have comfortable seats, good lighting, abundant ventilation, freedom from dust, etc. Sufficient opportunity will be given for change and relaxation so that excessive fatigue may not result. The teacher will remember that the most effective influence is that of his own example.

Especially will the skilful teacher undertake to make his instruction extend to the life of the home. Some of the practical objectives of his instruction will be proper dietaries for children, the securing of sufficient sleep under good conditions, well balanced exercise, regulation of the conditions of home study, moderation in amusements, parties, moving-picture shows, etc.

### *The Subject-Matter of Physiology and Hygiene*

The subject-matter of physiology and hygiene must be carefully selected to meet the ends desired. It will be wholly futile to set up as our aim the definite, practical and concrete results asked for above and then seek to accomplish these results through the highly technical material of anatomy and advanced physiology still found in many elementary texts. The final outcome of our teaching will depend on the kind of matter we teach. The material must fit the aim.

**Central emphasis on hygiene and practise.**—Almost from the first day that the child enters school instruction should be given in hygiene. This is because the child needs then and there to begin the *practise* of certain hygienic laws, both in the school and in the home. At this stage the subject will, of course, not require a separate place on the program; the instruction will be given in connection with the general work and life of the school, *but it will be given*.

The instruction may continue as oral work up to the fifth or sixth grade (or even to the seventh grade, where the

teacher is well prepared and not overcrowded with work). The subject should be given a separate place on the program for at least one year during the course, but in most cases not until a text-book is placed in the hands of the pupils. The lessons should be correlated constantly with language work, nature study and home economics. Such topics as the following should receive chief emphasis:

**Growth and development.—**

What makes us grow. (How food turns into living tissue.)

Causes that hinder growth and strength. (Improper food, disease, etc.)

Causes of sickness and how to avoid. (Good vitality, avoiding contagion, etc.)

The business of being well and strong. (Chiefly a question of living right.)

**Food and eating.—**

Story of why we need food. (Wearing out of the body.)

Best foods for children. (Good and bad dietaries.)

When to eat and when not to eat. (Habit of "piecing," etc.)

How to eat. (Hygiene and manners.)

What to drink and why. (Milk, instead of coffee and tea; plenty of water.)

How to make sure about pure water. (Source, sterilizing.)

The common drinking cup. (Dangers, ways to avoid.)

The fly nuisance. (Filthy, dangerous, how to avoid.)

**Good air and breathing.—**

Effects of impure air. (Simple experiments.)

What are the impurities found in air. (Bacteria, dust, odors, etc.)

Simple story of microbes, good and bad. (Invisible plants, how they live.)

Ventilation, or how to get pure air. (Windows, outdoor exercise and sleeping.)

Dust and its control. (Keeping dust out, removing, kinds of dusters.)

Damp basements, drains, etc. (Tests, how to dry.)

Smoke and other impurities. (Offending chimneys, trains, cesspools, etc.)

Re-breathed air. (Effects.)

Overheated air. (Effects, right temperature for sitting or working.)

Air that is too dry. (Tests with plants, woodwork and furniture, remedy.)

Learning how to breathe. (Deep and shallow breathing, postures.)

Good and bad bodily postures. (Simple tests, training right habits.)

### **Exercise, sleep and rest.—**

Story of need of exercise. (Effects of no exercise.)

When to exercise. (Eating and playing, overweariness.)

Cause of being tired, and need of rest. (Fatigue poisons.)

Play and work. (Rules for.)

Why we sleep. (Compare with need of food or drink.)

How much sleep we need. (How we are to know, rules.)

When to sleep. (Habits of going to bed and getting up.)

Best conditions for good sleep. (Quiet, good bed, air, darkness.)

Causes of bad dreams. (Where dreams come from, cure for bad dreams.)

### **Care of the body.—**

Why we should keep the body clean. (Health, attractiveness, self-respect.)

Bathing and care of the skin. (Frequency, how to bathe, etc.)

Cleaning of the mouth and teeth. (Importance, rules, daily practise.)

Care of the hair and scalp. (How to wash, when, how often.)

Care of the nails. (Trimming, keeping clean, long nails, etc.)

How to use the eyes. (Simple tests of vision, light, posture of the head, etc.)

Care of the ears. (Cleanliness, ear troubles.)

Cleanliness and neatness of clothing. (Brushing, washing, taste, etc.)

### **Troubles we may learn to prevent.—**

Colds, causes and cure. (How originated, treatment, prevention.)

Headaches. (Common causes, cure.)

Indigestion. (How to avoid, how to cure.)

Earaches. (Causes, cure.)

Sore throats. (Tonsil troubles, cure.)

Toothache. (Decay and cleanliness, the need of consulting the dentist, etc.)

Chapped hands. (Prevention, cure, cause.)

Chilblains, etc. (Chilled feet suddenly warmed, cure, etc.)

### **Freedom from disease.—**

Nature of disease. (Health the normal condition.)

How diseases are spread. (Contagion, disease carriers.)

Common disease carriers. (Flies, mosquitoes, water, milk, etc.)

How to escape certain common diseases. (As colds, tuberculosis, typhoid.)

Troubles originating in mouth, nose or throat. (How to detect and cure.)

Treatment of flies, mosquitoes, rats, etc. (Prevention and elimination.)

Control of certain forms of bacteria.

The elimination of tuberculosis. (Fresh air, spitting.)

The principles of home, school and community sanitation.

### **The forming of useful habits.—**

How habits grow. (Many illustrations, physical and mental.)

Good and bad habits. (List of each observed in school.)

Habits of sitting, standing, walking. (Concrete illustrations.)

Habits of eating; foods we grow to like, etc. (Illustrations.)

Habits of speech, articulation, enunciation, etc. (Tests for.)

Habits of preparing and reciting lessons. (Study methods taught.)

Habits of neatness, accuracy, promptness, etc. (Specific cases.)

**Bad habits to be cured.<sup>1</sup>—**

Biting the finger-nails.

Sucking the thumb and fingers.

Putting in the mouth money, mitten, lead pencil, corner of book, handkerchief or anything except food and drink.

Coughing or sneezing with mouth uncovered.

Promiscuous spitting.

Rubbing the eyes.

Picking the teeth with a pin.

Sitting or standing on one foot.

Slapping or pulling the ears.

Borrowing one another's drinking cups, whistles, caps or handkerchiefs.

Sitting in damp clothing and failing to remove outside wraps, as coats, sweaters and rubbers.

Eating improper foods between meals.

Neglecting to wash the hands after visits to the toilet.

Snuffling and picking the nose.

**Emergencies and first aid.—**

Bruises and cuts.

Sprains.

Treatment of punctured wounds.

How to bandage.

Treatment of burns.

Bleeding and its control.

Drowning and asphyxiation.

Frost bites.

Poisons.

Bites and stings.

**Senses and nervous system.—**

Part played by the senses.

Their connection with brain.

Hygiene and physiology of sight, hearing, etc.

Nerves and nervousness.

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<sup>1</sup> From *Massachusetts Bulletin of the Board of Education* No. 62.

**Things that hinder health, growth and efficiency.—**

The effects of alcohol on growth. (General facts.)

Alcohol and efficiency in work. (Rules against drinkers in factories, etc.)

Alcohol and length of life; attitude of employers. (Illustrations.)

Tobacco and growth in weight and strength; attitude of employers. (Results cited from various tests.)

Worry, its effects, causes, cure. (How to prevent worry.)

Effects of tea and coffee on growth and development. (Illustrations.)

**Text-book work.**—The time at which a text-book is introduced in the course will have considerable part in determining the scope of the oral material. In many schools a two-book series will be found desirable. In such case the elementary text may well cover a number of the topics which otherwise waited to be used for oral work. Even where but one reasonably advanced text is used it will include, from a different and more complete point of view, many of the topics presented orally earlier in the course.

This is natural and right, but care must constantly be taken that mere repetition does not cripple the interest and destroy the usefulness of the work. The scope of treatment and the nature of the material must grow with the development and experience of the learner. His study must fit with the problems, interests and activities of his broader life and greater mental grasp. Without becoming technical, the material should grow more scientific. Here as in the earlier stages *hygiene rather than the technicalities of physiology and anatomy* is to govern the aim, though physiology will receive more attention than in the earlier grades.

**Elimination of unsuitable material.**—The foregoing outline has suggested the points to be selected for emphasis in our instruction. Many teachers will, however, find themselves handicapped by text-books that do not embody the

point of view we have presented. Our advice to all such, where the text-book can not be changed, is to *omit such material as is manifestly useless* to the child and replace it with material that is fruitful. Following are some phases of the subject that should be omitted:

Anatomy of the skeleton.

Anatomy of the muscular system.

Technical anatomy of the circulation and technical description of the circulation.

Technical anatomy of the digestive system.

All unnecessary technical terms that belong to advanced anatomy.

Details of the anatomy of the eye and ear.

Anatomical representation of organs affected by the use of alcohol.

Detailed anatomy of the brain and nervous system with technical terms connected therewith.

Microscopic anatomy of blood corpuscles, bone tissue, muscles, etc.

### *Organization and Presentation*

The problem of teaching physiology is simple because the material is so genuine, so plentiful, lies so near at hand, and because the practical application is so natural and immediate. The fundamental principle is to *organize the instruction about the actual life, growth, health and development* of the pupils in the home and the school. This will make the subject real and cause it to appeal to the interest and cooperation of the class.

Much of the work in the lower grades may well take the form of positive directions. Too often instruction in hygiene is mere talking *about* certain facts or rules, and not putting them into practise. The reasons lying back of the practise instituted should be given as soon as the mind of the child naturally inquires for them, but should not be

forced too early. Method must in the lower grades be centered upon *hygienic habit*.

**Motivating the work.**—*The Massachusetts Course of Study* (Bulletin 62) suggests the following devices for arousing interest:

Let the children share with the teacher responsibility in solving the health problems of the school; e. g., different children may be appointed:

To have charge, for a time, of opening and closing windows to regulate the temperature of the room according to thermometer readings.

To flush out the room at recess periods.

To open windows during physical activities.

To report condition of sanitariums.

To note that all children remove their rubbers.

To regulate the amount of light in the room by adjusting the window shades.

**The following practical exercises are also utilized.**—

A furnished doll's house, used effectively to teach hygienic ways of sweeping, dusting, airing day clothing and bed-clothing, best kinds of bed and pillow, position in sleeping, proper ventilation, etc.

Demonstrations before the class of proper ways of cleaning the teeth, washing the skin, caring for the nails, of sitting, standing, walking, lying, of getting on and off a car and of putting up a lunch.

Exhibitions of proper materials for cleansing the skin, cleaning the teeth, caring for the nails and combing the hair.

Collections of pictures made by the children supplementing that of the teacher, emphasizing important points, such as proper posture in sitting, standing, walking, etc.

The finding and discussing of articles in magazines and papers.

Posted lists of foods suitable for growing children; also lists of constipating and laxative foods.

Tables indicating the amount of sleep required at different ages and food composition.

Story-telling to impress the idea of the controlling power of habit.

Dramatizations by the younger children as a means of emphasizing the importance of right habits.

Experiments performed to show currents of air, and tests made of air currents in the school room.

**Demonstrations.**—An excellent device is some form of *demonstration*. For example, the day's lesson deals with the health and social factors involved in putting up a school or picnic lunch. Two children (or but one) are chosen to put up the lunch before the class; to show why they choose certain articles of food in preference to others, why they wrap each sandwich in waxed paper, use of individual cups, how napkins are to be used, how to eat without soiling fingers or clothes, the value of an attractive appearing lunch and similar points.

Demonstrations may be carried out in like manner on sweeping and dusting the room; correct breathing; right postures, standing, sitting, walking; caring for the nails, brushing the teeth, washing and drying the hair, etc.

**Practical exercises and experiments on physical growth and development.**—Have children help make a chart or table showing the various physical measures for ages six to sixteen inclusive. Then proceed to conduct physical measurements of height, weight (in indoor clothing except shoes), chest girth, chest expansion, lung capacity (if a spirometer is available) and simpler tests of strength (as arm strength with dynamometer or an ordinary spring scale). The tests should be carefully repeated several times a year and an accurate record of each pupil kept.—(Good tape lines and the use of near-by scales will supply all the apparatus required.)

The use of such experiments and tests will serve first of all to stimulate and vitalize the study of physiology. The

double motive of the genuine activity involved and the interest in whatever touches the ambition to be large and strong and efficient is irresistible. Children will respond enthusiastically to the appeal of such work.

But it must be remembered that the measures and tests are not an end in themselves. Their real purpose is to afford a true starting point for instruction on the factors involved in physical growth and development. The practical experiments must make the child *want* to breathe better or assume better postures in order to increase his lung capacity. They must make him desire to eat a better ration or drink milk instead of coffee, that he may make a more favorable showing in size and strength. And when this attitude of mind is produced the pupil is then ripe for instruction.

**Exercises connected with the study of food and eating.**

—Practical points of contact for this phase of instruction can be secured by such methods as the following: Teach the pupils to keep an accurate record of the different kinds of food they eat during several days. Then discuss the question of foods, showing the best foods for producing growth and health. Also, without introducing any technical terms, present several sample dietaries, explaining the need of the body for different kinds of food and laying the foundation for an understanding of the balanced ration. While tact will be required at this point, the deficiencies in faulty bills of fare can be clearly brought out and bad practises remedied.

If a microscope of reasonable power is available an excellent starting point for the discussion of disease germs in water and milk can be had by exhibiting the many forms of life easily visible in a drop of stagnant water. This will lead to practical lessons concerning the sources of contamination of water and milk, methods of sterilization, etc.

An investigation and report by the members of the class on the local breeding places for flies and mosquitoes which they have been able to discover, the practises with reference to screening houses and protecting food supplies in the homes or the markets, and the use made of fly-traps will serve as the foundation for many valuable lessons in this direction.

**Applied work on the study of air and breathing.**—This topic offers an excellent opportunity for activity and applied lessons on the part of the pupils. Some of the subjects available for investigation, experiment and report are as follows:

The number of windows in each pupil's sleeping-room, and how far they are kept open at different seasons. Also the number who sleep on open porches.

A record taken for a week in the winter time of the temperature of the home living-room (1) in the morning at school time, (2) at noon, (3) in the evening.

The methods and tests used to insure sufficient moisture in the heated air in the homes during the winter season.

A study of methods of sweeping and dusting employed in the home, the school, in churches or public halls.

An investigation of cellars and basements for dampness, molds and rubbish.

A study of habits of sitting, standing and walking, and other bodily postures. Simple tests for good and bad postures.

With such practical starting points as these the instruction can easily lead to the useful knowledge required for good hygiene and the formation of right habits of living.

**Care of the body.**—Probably more tact and skill will be required in connection with this topic than with almost any other in the study of physiology. Yet it is precisely

at such points that the teaching must be concrete and even personal if it is to be effective. Some of the practical questions on which information may be gathered are:

The number who have bath tubs in their homes. (Many communities have more automobiles than bath tubs.) The number of baths taken each week.

The practise with reference to washing and brushing the hair.

The ownership and use of tooth-brushes. Cleanliness of hands and care of nails. Many teachers have introduced the "morning inspection" of hands, nails, hair and teeth of all children in their room. Others have formed "tooth-brush clubs."

Simple eye tests such as can be made for near or far sight or for astigmatism by use of a chart that may be had from oculists at a cost of from twenty-five to fifty cents. These should be a part of the school equipment.

A count of the number of teeth in each mouth. Number that are perfect. Number loose. Number decayed. Number that ache. Teeth that are crowded or defective in position.

**Prevention of sickness and disease.**—The aim here is not to arouse the child's fears or make him morbid over sickness, but rather to show that health is the normal condition, and that much of sickness and disease can be avoided. Some of the topics investigated may be:

How many of the so-called children's diseases each one has had. How each disease was taken if known. (Show that many of the diseases long thought to be inevitable are now being driven out.)

What sicknesses each has had within a year (cause and how avoided.) How many have not had to take medicine, stay in bed or have the doctor for a year.

A study of the condition of tonsils and nose. (The

teacher should be able to detect adenoids or diseased tonsils.)

Prevalence of or freedom from headaches, earaches, indigestion, chapped hands, chilblains, etc.

In these lines as in the preceding the object of the personal factor is to centralize interest and cause the facts learned to begin functioning at once in leading to the practise of better hygiene in the daily life.

**Dramatization.**—The following excellent suggestions for dramatizing instruction in hygiene is given in *Bulletin 62 of the Massachusetts Board of Education*:

**Playing at housekeeping.**—A part of the class room is screened off to form a room about the size of a room in an ordinary house. This is furnished with dining-table, chairs, rocking-chair, bookcase, etc., all of children's size. Part of the furniture is loaned by the children and part owned by the school. Dishes and dishpan, a broom and dustpan, form part of the equipment. In any given lesson certain children are chosen to represent the various members of a family; they act out their special parts aided by suggestions from the other children and the teacher. The mother and daughter play that they prepare, serve, share and clear away a meal. The father and son behave accordingly. At another time the room is fitted up as a living-room, and the play takes a form corresponding to that idea. This project offers opportunities for a great variety of lessons in cleanliness, good table manners, selection of foods, wholesome home life, etc.

**To illustrate an emergency treatment.**—Children jumping a brook. Ruth slips on pebble, falls, spraining ankle. Other two take off her shoe and stocking and hold ankle in the cold water. Replace stocking and shoe, lacing shoe tightly. Make handkerchief seat and carry injured one to camp. At camp alternate hot and cold water douches. Massage and bandage. Ruth sits for a time with foot up. Later exercises gently. Ankle massaged and rebandaged.

**Dangers arising from ignorant or careless people in**

**case of contagious diseases.**—Little girl receives a letter from a cousin, telling her she has been ill with diphtheria. A few days later, children playing in yard. Ada sits apart and complains of headache. Ada refuses to eat at supper table. Mother puts her to bed. Finding her feverish, calls doctor. Doctor questions Ada. Traces illness to letter. Pronounces case diphtheria. Sign put on house and nurse called. Ada asks for big doll. Mother gives her a smaller one, as everything must be burned which Ada touches. Ada improves. Playmates call, but are refused admission. Ada recovers. Such things as toys and bedding burned. Room disinfected. Continued isolation after card has been removed until doctor pronounces throat perfectly clean.

### QUESTIONS AND PROBLEMS

1. Do you agree with the six points suggested under *aim* in this chapter? In what grade do you begin oral instruction in hygiene? Are you able to get the pupils to *practise* what you teach them?

2. Does your first text-book in physiology emphasize chiefly the hygiene or the anatomy material? If the latter, what can you do to supplement? Are you teaching any of the more technical material recommended for omission?

3. Have you made any careful study of the health conditions of your pupils? Eyes? Teeth? Tonsils? Adenoids? Bad postures? What is the medical inspection law, if any, of your state?

4. Do your pupils *enjoy* the physiology recitation? Do you have them dramatize any of the work? Have you tried tooth-brush clubs. fresh-air clubs? Do you have daily inspection of hands and nails, hair, teeth, etc., among the younger children?

5. To what degree do you think your teaching of physiology is resulting in better health among your pupils? Is it reducing colds? Tendency to tuberculosis? Eating unsuitable foods, etc.? Is it improving postures and carriage? Is it increasing interest and pride in health, growth and vigor?

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## CHAPTER XVIII

### PENMANSHIP

**P**ENMANSHIP is esteemed so important a part of education that much time and attention are devoted to it. The Massachusetts Course of Study, for example, provides for seventy-five minutes a week for the first two years, and one hundred minutes a week for the next four years in this subject. This is a greater proportion of time than is devoted to any other subject except reading, language and arithmetic.

#### *The Aim—What We Seek Through Penmanship*

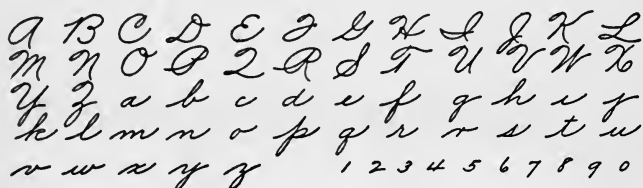
The aim of penmanship teaching is to train our pupils to *legible, rapid, neat* writing. Legibility comes first. No matter how fine the curves or fancy the appearance, none of these things counts as against clearness and ease of reading. The writing must proceed with fair speed. The slow writer not only wastes time, but also hinders his thought; for thoughts move faster than the pen and have a tendency to escape and be forgotten if the pen delays too long. Handwriting should be neat, for taste, character and efficiency are in no small degree judged by one's writing.

**Knowledge required.**—The knowledge required in penmanship is not extensive. By far the greater part of the emphasis must be given to practise and drill in order to attain ready skill. Nevertheless, there are certain important things which the child must *know*:

1. The correct letter forms.
2. Correct positions of person and paper in writing.
3. Right movements in forming letters.

*Letter forms.* At the beginning the child should write with the letter form directly before him so that he will have a model to copy, and also so that he will get the letter image well fixed in his mind. One's writing finally becomes automatic, the right forms being made without conscious direction. But while the child is in the process of learning the forms he *must be able to think them*. This makes it of supreme importance that only good writing shall be placed before the child while he is learning to form the letters.

Many controversies have been waged over the best form or style of letters. Extreme slant, vertical and median slant letters of varying shapes have all had their advocates (and systems of copy-books). At present there seems to be a rather general consensus of judgment that a simple letter of median slant is most legible and most easily and rapidly produced. The following is a fair sample of the letter forms that should be taught the child:

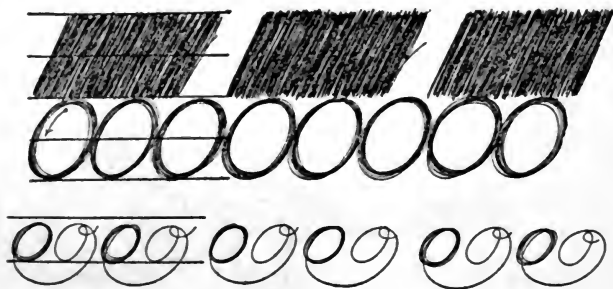


*Correct position.* Much depends on early teaching of correct position in writing. This will not only result in better penmanship, but will save fatigue, eye strain and many evil effects that come from bad bodily postures.

The best position is facing the desk, or with the right side turned slightly toward the desk. The feet should be

on the floor in easy natural position, instead of crossed or cramped up under the child. The body should lean forward slightly from the hips, and the head be tilted just enough forward to give the eyes an easy angle of vision. The writing arm should have a full easy support on the desk from the elbow, resting only on the cushion of muscle in front of the elbow, and the nails of the last two fingers. The free hand should lightly hold the paper. The pen should be held easily and naturally, without gripping. As the writing on a page proceeds, the paper should be moved up so that the arm may not need to move down and so get out of position.

*Movement.* From the child's earliest writing he should be taught to get as free and easy a movement as possible. The *muscular movement* is now generally approved by writers and teachers of penmanship. The driving force is from the large muscles of the upper arm and shoulder, the muscle cushion of the forearm allowing a rolling, gliding movement to take place. True, the small child does not have much of a muscle cushion. Yet the free movement should be taught from the first instead of a cramped finger movement. It is best not to allow habits to form which will later need to be unlearned. The following exercises are typical of those that should be used to develop the muscular movement:





**Skills to be trained.**—Skill in penmanship involves not only the question of legibility, speed and general appearance, but also *the degree to which one's best skill becomes his general average of writing.* No one continuously writes as well as he can. Some habitually write far below their ability. For all practical purposes, one's skill in penmanship is measured, not by a best sample of his writing, but by the kind of writing he turns out from day to day. Although it is undoubtedly best to have special periods for the teaching of penmanship, at least in the earlier grades, the instruction given at this time *must be made to carry across to general written work* if our teaching is to be effective.

Many attempts have been made to standardize skill in writing by devising certain tests or scales by which to judge legibility and speed. The most important of these are the *Thorndike Scale of Handwriting*,<sup>1</sup> and the *Ayres Scale of Handwriting*.<sup>2</sup> The Ayres scale grades samples of writing from 20 to 80; the Thorndike scale from 4 to 18. The

<sup>1</sup> Teachers College, Columbia University, New York. (Cost of sample 5 cents.)

<sup>2</sup> Russell Sage Foundation, New York. (Cost of sample 5 cents.)

general idea in the two scales is the same, the basis of marking the values being different. Page 313 shows a part of the Ayres scale.

The schools of South Bend, Indiana, measured by the Ayres scale, showed the following results:<sup>1</sup>

Grade	Ayres Quality	Speed, letters per minute	Per cent. of pupils making record shown in col. 2 and 3
3	40	45	77.5
4	40	50	77.5
5	50	55	77.5
6	50	60	77.5
7	60	65	77.5
8	60	70	77.5

Doctor Frank N. Freeman investigated the skill in penmanship in fifty-six cities of the United States and found the averages grade for grade slightly higher than the above, the difference not being marked.<sup>2</sup>

An interesting and important fact shown by the use of such scales is that writing ability progresses but little above that reached in the eighth grade. Or, at least, if greater skill is attained it is not kept. Thorndike found that one thousand Teachers College students wrote slightly under eighth-grade standard. Teachers tested in several normal institutes averaged no better in legibility than sixth- or seventh-grade writing.

The facts have led to the important conclusion that when pupils have reached a fair standard of legibility and speed (say sixty on the Ayres scale or twelve on the Thorndike

<sup>1</sup> Quoted in *Iowa Report on Elimination, 1915*, page 20.

<sup>2</sup> *Fourteenth Year Book of the National Society for the Study of Education*, page 61.

40	50	60
The appearance of Rip, beard, his rusty fowler and the army of ramses who demanded that even wilderness of his made	Fair would I pause to dwell burst upon the enraptured every to justice ample did I great so in not was two on get to eager too am on	He entered the house, where had always kept in the general characters large and hat cocked a with a sceptre or of instead has
The hair of the frightened pedestrian what was to be done? him within sink to legs other his quickness however leaving of hopes in stead his	His school was a low building constructed of logs the window partly strong the of those of the of back off burden the ta studying pupils hit of now	It is remarkable that the I have mentioned is not inhabitants of the valley vegetation families same the find still not should
The gallant hero now spoke hour at his toilet brush his best country the wine looked he as down stro had and sides furious a	School prude himself as much as upon his social not a fibre about exploits himself make to record and fiction becoming,	School prude himself as much as upon his a limb not a fibre about hero the himself more his of little the in

A section of the Ayres Handwriting Scale. Three samples are given under each grade of ability. Third- and fourth-grade pupils should reach a standard of 40, with a speed of 45 to 50 letters a minute; fifth- and sixth-grade pupils a standard of 50, with a speed of 55 to 60 letters a minute; seventh- and eighth-grade pupils a standard of 60, with a speed of 65 to 70 letters a minute.

scale) they should be excused from further drill on penmanship. This plan is being followed in many good schools at present. Writing classes above the sixth grade are maintained only for those who require further instruction and drill to bring them up to the standard set. Teachers should secure a copy of one or both of the scales mentioned and test the progress of their pupils by them.

**Attitudes to be developed.**—Interest in good penmanship and pride in personal skill are among the greatest incentives to good work in writing. These attitudes, once grounded, will also save from carelessness and slovenly penmanship outside the writing hour. Pupils should be stimulated to set reasonably high standards for themselves and then have the perseverance to make these ideals over into practise. Good taste should always be at a premium.

### *Conducting the Writing Hour*

Writing, like other lessons, requires keen study, attention and alertness. Each pupil should daily strive to better his own record in legibility and speed. All manuscripts, whether from the writing period or other written work, should show taste and neatness.

**The writing time.**—Since penmanship requires steadiness of nerve and muscular control, the writing period should not come immediately following an intermission given to play. Nor should the lesson be long enough so that fatigue results. Fifteen minutes of drill is long enough for one time. Two ten-minute periods a day are better.

**Models and incentives.**—As already stated, the child should have placed before him only good models. The letter forms should be simple, and not the over-perfect engraved type that characterized the earlier copy-books. Whether a copy-book is used is not highly essential, though

it is best to have pen copies of normal size before the pupils rather than to depend on charts or blackboard copies. No shading should be allowed. The teacher should use the blackboard freely.

A copy of one of the Ayres or Thorndike scales should be prominently displayed on the wall of the room, and pupils instructed as to the mark they should reach in their respective grades. It will be possible in most schools to get up a healthy spirit of rivalry to "beat the chart." This ambition should, of course, extend to all written work, and not just to the performance of the writing hour. A sample of every child's writing should be taken at the beginning, middle and end of every year and compared with that of other pupils and with the scale.

**Conducting the drill.**—One of the worst faults of many writers is an irregular, jerky movement. This is sure to result in ill-formed, scrawly letters and slow speed. The muscular movement will tend to remedy this fault, but it should also be prevented or cured by definite attempts at securing rhythm of movement. This can be done by *counting* for certain exercises, the entire class falling into time with the strokes. Other devices are the use of a metronome, or time-marker, or the playing of music suitable to the movement desired. The children should also be taught to *think* a rhythm for themselves when practising on movements. The aim is, of course, to develop an inner sense of time and to coordinate the writing movements with it. All the external helps suggested must lead to this end. In counting or marking time the count should come on the *down* or *right* strokes.

**Individual teaching.**—While the exercises and drills may be given to the whole class together, much individual instruction should be given. One child may have trouble to get the swing of the movement, another may lack a sense of

rhythm, while a third may have wrong forms for his letters. Each will need to have direct and close supervision to cure him of his faults.

Whatever the system of copy-books or other models placed before the pupils, eternal vigilance is required to insure *progress instead of deterioration* under drill. Most teachers have been troubled by finding the first line of the child's writing after the copy fairly good, the next not so good, the third worse, and so on with increasing badness to the bottom of the page. This must be avoided, for drilling in the wrong direction will never lead to efficiency. One method, where the copy-book with a set copy is used is to have the child begin on the *last* line and work up toward the copy. He will then not copy his own imperfect letter forms.

**Materials.**—Soft pencils and rather wide-ruled paper make the best equipment for the first grade. Pens may be given to the second grade, but the pens should be stiff and the points should not be sharp. The penholder should have a grip of cork or rubber, and *not* the smooth metal clip so often used. It is impossible to hold a pen of this sort without gripping it tight, which cramps the hand and hinders full and easy movement. The paper should be smooth, and hard glazed, and the ink an easy-running fluid. A supply of good blotters should always be on hand.

### QUESTIONS AND PROBLEMS

1. Have you ever tested your pupils by one of the scales for handwriting discussed in this chapter? If not, are you not willing to do so? To test for speed, have the pupils write ordinary copy for two minutes. Count the letters. One-half of the number will represent their speed.

2. Do your pupils use a muscular or finger movement? Have you definite drills which you use to develop skill in movement? Have you tried to improve their rhythm of writing?

3. Try taking samples of your entire class on the same copy.

Now study these individually for faults that need correction. Can you devise exercises to correct the faults?

4. Note the postures of your pupils in writing. Do some sit with cramped arm? With bodies or head out of position? Do some write with cramped fingers? Can you remedy the troubles?

5. Are your pupils noticeably improving in their penmanship? Do you give full time to the penmanship work? Do you make it *definite* and *individual*? Are you becoming a better penmanship teacher?

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## CHAPTER XIX

### AGRICULTURE

**A**GRICULTURE has its beginning in the study of nature. Nature study is the study of the great out-of-doors. It should begin with the child's entrance into school, and continue in some form as long as he attends. Agriculture, which is a specialized form of nature study, should have a separate place on the program during the seventh and eighth grades. There will be no necessity or attempt in this discussion to distinguish sharply between nature study and agriculture for the earlier grades.

#### *The Aim—Results Sought*

Nature is an insistent and ever-present reality to every person. Its sights and sounds and contacts are always thronging upon our senses. Its objects constantly appeal to our observation. Its beauty daily enriches our lives. Its problems are a perpetual challenge to our investigation and mastery. Its gifts supply our needs, and give us the comforts and luxuries we enjoy. Surely an important part of our education is to enter as fully as possible into an understanding and appreciation of our natural environment.

Agriculture is the most fundamental and important of all industries. It employs millions of workers, and supplies the prime necessities, food and clothing. Whatever be our occupation or status in life we all go back to the soil for what we eat and wear. Upon the success of agriculture the welfare of all other industries and vocations depends. Whether

one is to follow farming as a career or live in a city, some knowledge of agriculture is necessary to breadth and intelligence. The study of agriculture should therefore not be limited to those who are to follow farming as a vocation.

**Knowledge to be sought.**—Agriculture and the study of nature should yield certain well-defined knowledge, the more important phases of which may be classified as follows:

1. Acquaintance with the common forms of life daily met in our environment, that we may understand their relation to our welfare.

2. Knowledge of the plants and animals upon which we are dependent, including their economic production, and the conservation of the fertility of the soil which supports them.

3. Knowledge of agriculture as an occupation, its opportunities, demands and rewards. This, for children, will of course deal with but the broader phases of the question.

4. Knowledge of how to make the country home as comfortable, convenient and attractive as the city home while at the same time the owners are winning economic independence.

**Attitudes to be developed.**—The study of nature and of agriculture is as important for the attitudes and interests it develops as for the knowledge it trains. Some of the chief attitudes to be sought are the following:

1. A broad appreciation of nature and spontaneous enjoyment from contact with living, growing things, or from fields, sky or stream. Love of nature enriches the life, broadens the sympathies, and results in longer, happier and better lives.

2. An interest and pride in high-grade achievement on the part of those who make farming their vocation. Agriculture offers opportunities for a worthy career not fully appreciated by many who till the soil. He who makes eighty bushels of

corn grow where but forty grew before is not only a benefactor of his race, but he has attained a personal success of which he may well feel proud.

3. High esthetic and hygienic standards for country life and homes. The farm-house can be made beautiful, healthful and satisfying and the homestead show a spirit of artistry in work without in the least interfering with the economic returns.

4. Standards and appreciations that will increase the attractiveness of towns and cities through adding touches of nature to home buildings and grounds, and securing better care of streets, alleys, parks, etc.

5. Honest appreciation and admiration for worthy labor, such as goes to produce our food, shelter and clothing.

**Skills to be trained.**—The study of nature and of agriculture should carry across to certain definite skills. Among these should be such as:

1. Ability to identify the following: common domestic animals of the region; wild animals most commonly seen; common birds and insects; characteristic trees and shrubs; the native farm crops and garden plants, common flowers.

2. Skill in caring for, or producing, such of the above as commonly come within the interests and care of the average person. For the farmer this will mean ability to make agriculture pay.

3. Skill in planning and carrying out a project for a home garden, farm crop or other enterprise for beautifying the home or adding to its welfare.

4. Skill in using nature and outdoor life or work as a means to happiness, culture and health. This means *power to grow* under the influence of nature.

That even children are capable of developing worthy skill in certain of these lines is abundantly proved by the fine display of garden, orchard and farm produce shown in

many of the school and club exhibits, and also by the prize poultry, pigs, calves, etc., which children have produced under the stimulus of agriculture study. Indeed, the largest yields of corn and of certain of the garden crops produced in the country have come from club boys and girls who have translated their instruction and interest into applied skill.

### *The Material to be Taught*

The material for the study of nature and of agriculture is not to be found in text-books. The great objective is the out-of-doors. With this our class must have first-hand contact, or better a thousand times omit the subject. True, books will be used; we shall need the best of text-books. But *these contain none of our real material*, they only show us how to look for and understand the objects we find in nature about us. We are to study *things*, not words.

It is so much easier to understand what a book says about a thing than to observe, study and understand the thing itself that teachers, even though they know the method is bad, have a tendency to substitute the book for the plants or animals which the book describes. Especially is this true if the teacher has never made a study of agriculture or of nature. But even with the handicap of inadequate preparation it still is *better to study the real objects with the children than to teach empty words about them*. For by this method the child's habit of observation at least will be developed and interest cultivated in the environment.

Organized agriculture, taught as a separate subject and having a distinct place on the program, should be reserved for the seventh and eighth grades. Many schools limit it to the eighth grade. But a broad and valuable fund of information and a rich field of interests concerning nature should be growing up during the earlier grades. As already shown,

this can be successfully accomplished in connection with language, reading and geography study, while at the same time enriching the contents of these studies.

**Material for the earlier grades.**—The purpose in the lower grades is not to present a connected and scientific view of agriculture or any other phase of nature study. It is rather to study each year a few of the most interesting phases of nature that lie close at hand. No outline or course of study can prescribe *the detail* of what should be taught in different schools; this must be determined by the interests of the pupils, the season, the time available, and the character of the environment.

An illustration of the point of view is found in the subject-matter in nature study and elementary agriculture recommended to teachers by the New York State College of Agriculture, which for the year 1916-17 includes the following topics:<sup>1</sup>

**Birds.**—For special study, the downy woodpecker and the hen; to be recognized, any two other winter birds and any five of the following: robin, bobolink, redstart, red-eyed vireo, blackbird, yellow warbler, humming bird, marsh wren, turkey, owl.

**Animals.**—For special study, the toad and the cow; to be recognized, any four of the following: frog, hog, bat, rat, rabbit.

**Insects.**—For special study, the ant or the honey bee, and one biting and one sucking insect; to be recognized, any four of the following: cricket, dragon-fly, cutworm, hornet, cecropia.

**Plants.**—For special study, the bean; to be recognized, one of the clovers, one of the grains, one of the grasses, and any six of the following: elder, tulip, dandelion, buttercup, lily, chickweed, verbena, beet, tomato, squirrel corn; to be studied, any four of the following weeds: quack-grass, orange hawkweed, dandelion, chickweed, yellow daisy.

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<sup>1</sup> *Rural School Leaflet*, Vol. X, No. 1, page 33.

**Trees.**—For special study, the apple and one conifer; to be recognized, two kinds of fruit trees, one conifer, any four of the following: hemlock, pine, peach, pear, hickory, cucumber tree, maple, locust, ash, basswood.

The outline of material just given was intended for New York State, and was planned for the earlier grades. Other regions, while using the same general topics, would, of course, vary the details to suit the local conditions. An important caution is to avoid undertaking too many topics. Make a reasonably thorough study of a few topics of most interest to the pupils and the community, and a somewhat general study of a wider range to broaden the interest and pave the way for more complete investigation later.

**Seventh- and eighth-grade material.**—Seventh- and eighth-grade material should be more definitely organized than that of the lower grades to give a somewhat systematic view of the fundamentals in agriculture. The matter should not be technical, over-scientific, nor too difficult. Neither should it be trivial nor childish. It should deal with what is nearest at hand and most important in the locality.

It is best in most cases for the pupils to have a text-book, though it is to be remembered that the *agriculture* is out in the fields. The text will supply certain necessary information, suggest problems and give directions for study of the field material. *In no case, however, is the order or material of a text-book to dominate the course of instruction.* Crops must be studied as they are in season. The animals most important in the region are to have precedence. It is probably best, therefore, to base the study on a definite outline made to fit the immediate needs and conditions of the vicinity. The text-book and reference material will then be studied as required by the outline and field or laboratory work.

Material similar to that in the following outline is successfully used for seventh- and eighth-grade work:

### *Corn*

The plant, roots, ear and tassel.	Corn judging.
Counting the stand in field.	Testing the seed.
Collecting and storing seed.	Seed bed, planting, cultivation.
Harvesting corn crop.	Corn enemies, weeds, insects.
Silo, structure, use, profits.	Rotation based on corn.

### *Production and use of Milk*

Testing the milk, why, how.	Keeping the milk clean.
Best types of dairy cows.	Butter making.
Keeping dairy records.	Use of milk as food.
Feeding dairy cows.	Sterilizing milk.

### *Poultry*

Breeds for egg production.	Fattening for market.
Feeding and care for laying.	Housing of poultry.
Care and marketing of eggs.	Keeping free from diseases.
Eggs as a food.	Competing in poultry shows.

### *The Garden*

Soil and seed bed.	Spraying fruit and vegetables.
The garden plan.	Planting and pruning trees.
Planting time.	Storing winter fruit.
The hotbed and coldframe.	Canning and preserving.

### *Oats and Wheat*

Seed bed and planting.	Harvesting and threshing.
Varieties on home farms.	Uses and markets.
Prevention of rust and scab.	Insect enemies.

### *Forage Crops*

Grasses and legumes.	Feeding values.
Field study of varieties.	Care of meadows and pastures.
Clover and alfalfa.	
Nitrifying soil renewers.	

### *Soils*

Study of kinds of soil.	Use of manures.
How soil is produced.	Value of legumes.
Fertility and plant growth.	Rotation and fertility.
Moisture and drainage.	Irrigation and dry farming.

### *Hogs*

Local number and variety study.	Diseases, prevention, cure.
Housing and care.	Killing, cutting, curing.
Feeding.	Different breeds.

### *Horses*

Study of local types.	Training and driving.
Leading breeds.	Unsoundness and driving.
Feeding and care.	Judging.

### *Weeds*

Study of common varieties.	Effects on crop and soil.
How weeds spread.	Birds and weed seed.
Identification of weed seeds.	Extermination of weeds.

It is not meant that the above is a complete outline of the material for a course in agriculture. Other topics will need to be added according to the region, and some of those given omitted. As already stated, the local needs and conditions must determine the details of the content. Every state college of agriculture publishes outlines of material adapted to the region, and every teacher should avail himself of this expert assistance.

**What to omit.**—Not a few of the elementary texts have presented matter too difficult for children and unsuited to the purposes of this study in the grades. They have proceeded from the logical instead of the psychological point of view. The following should be omitted from elementary agriculture:

All chemistry given under the name of agriculture.

Technical botanical and physiological terms.

Technical analysis of various food elements.

Biological laws, as of Mendel.

Detailed study of crops not locally grown.

Biological explanation of cross-breeding.

Whatever else may be beyond the grasp or outside the interest of the pupils.

### *Organization and Presentation*

The foregoing outline of material is not meant as a *teaching* outline. Very few if any topics should be carried entirely through and dropped with a continuous series of lessons. For example, when school starts in September, *corn* is the natural topic with which to begin in the corn belt. But the testing of seed should wait for late winter and the study of planting and seed bed for spring. Only part of the corn lessons will come in the fall, therefore, other topics supplementing and filling the time.

An interesting time schedule for teaching agriculture in middle western schools is recommended by the Iowa College of Agriculture.<sup>1</sup> This table provides for one year of work five days a week. It is evident that the same proportions could be maintained in a course of two years one, two or three days a week:

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<sup>1</sup> *Teaching Agriculture in Elementary Schools*, page 10.

TOPICS	NUMBER OF PERIODS PER MONTH									
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Total
Birds . . . . .	..	..	..	..	..	..	2	1	..	3
Bees . . . . .	..	..	..	..	..	..	..	..	3	3
Cattle . . . . .	..	..	..	5	..	..	..	..	..	5
Conveniences, farm and home	..	..	..	..	..	..	..	4	..	4
Corn . . . . .	7	5	5	5	6	3	4	4	3	42
Farm management . . . . .	4	1	..	..	..	..	1	..	..	6
Feeds and feeding . . . . .	..	..	..	..	..	2	..	..	..	2
Forage crops . . . . .	..	2	..	..	..	..	..	..	..	2
Hogs . . . . .	..	..	..	..	5	1	..	..	..	6
Home sanitation . . . . .	..	..	..	..	..	..	..	..	6	6
Horses . . . . .	..	..	..	5	..	..	..	..	..	5
Horticulture . . . . .	5	..	..	..	..	..	9	1	..	15
Insects . . . . .	2	..	..	..	..	4	..	..	1	7
Machines . . . . .	..	..	..	..	..	..	..	..	4	4
Milk and its products . . . . .	..	6	5	..	..	..	..	..	..	11
Oats . . . . .	..	3	..	..	..	3	..	..	..	6
Plant growth . . . . .	..	..	..	..	..	..	..	5	..	5
Potatoes . . . . .	..	3	..	..	..	3	..	..	..	6
Poultry . . . . .	..	..	9	..	..	1	..	..	1	11
Seeds . . . . .	..	..	..	..	..	..	5	..	..	5
Sheep . . . . .	..	..	1	5	..	..	..	..	..	6
Social life . . . . .	..	..	..	..	..	3	..	..	..	3
Soils . . . . .	..	..	..	..	5	..	..	..	..	5
Weeds . . . . .	2	..	..	..	4	..	..	..	..	6
Wheat . . . . .	..	..	..	..	..	..	..	4	..	4
Totals . . . . .	20	20	20	20	20	20	20	20	18	178

Such an arrangement, while not adapted in detail for all regions, contains a valuable suggestion. The division of time is such that each topic is taken up at the season best adapted to some phase of its study. Nor is any one subject continued long enough to tire the interest of pupils in studying it.

**Home project work.**—From the very first lesson the pupils should be made to realize that agriculture is the study of the farm and its activities. They are never to think that they can “get the lesson” by memorizing certain pages of a book. They are to realize that the text and all reference ma-

terial are to help them answer questions and master problems growing out of their study of an ear of corn, the garden crop, the preparation of a seed bed.

The most successful carrying out of this point of view is in what is called *home project work*. This only means that the child shall actually *be doing* what he is learning—not as a made-up exercise at school, but genuinely *at home*, in the garden or the field, or in caring for the poultry or animals of the farm. In this way the interests become very real and the motives very compelling. What is learned is put at once into service, and therefore passes from theory over into practise.

Parents are usually more than willing to cooperate in home project work, for they can see practical good coming from the school study. In this way the home and the school are more closely united. Better methods of agriculture are often carried over from the pupils' home project to the broader work of the farm and thus made a part of the farm practise.

The best teaching of agriculture is everywhere attempting to have the instruction reach definitely to the farm through some form of home project work. The following represents home projects suitable for upper-grade children :

- Taking charge of a section of the vegetable garden.
- Assuming full responsibility for the care of poultry.
- Feeding and caring for a calf or a pig.
- Raising an acre of corn or other grain.
- Setting out and caring for certain shrubbery.
- Cultivating, picking and marketing berries.
- Spraying, picking and marketing certain fruit.
- Planting and caring for a bed of flowers.

The state college of agriculture, the agricultural club leaders and the county agents are always ready to cooperate with

the school in home project work. The wise teacher will work closely with all these agencies.

The school study should of course correlate directly with the home project. The teacher should have some oversight of the home work if possible, to give advice and direction. The child should receive school credit for home project work carefully carried out in accordance with the lessons of the course.

**Treatment of a lesson topic.**—Before going to the field, the woods or the farm for special study of a topic, there should be careful preparation. Otherwise the trip will lose at least a part of its value, and may degenerate into a *mere* excursion. Either through a study of the text-book or a discussion by the teacher the principal points to be observed and noted should be clearly understood. Maps or preliminary diagrams or tables for notation should be prepared in the note-books if required. Each pupil should then be held responsible for gathering the information which the class went to seek *and as much more as his own interest and observation may make possible.*

A recitation lesson should then be devoted to the subject, with a free discussion on the points observed and their meaning. Notes should be compared, errors corrected, and meanings explained. Following this discussion there should usually be further study of the text and other references.

**Agricultural "demonstrations."**—The "demonstration" has for its purpose the teaching of some definite truth by means of concrete example. The aim of an *experiment* is to discover truth; the aim of a demonstration is to put truth into practise. The demonstration may be performed by one individual or by a class before the school or in the presence of neighborhood club meetings, at fairs, or any other assemblies. The exercise consists in *showing how to do cer-*

tain important things connected with the farm or the home. Suitable demonstration exercises are suggested by the following:<sup>1</sup>

How to test seed corn in various types of testers.

How to string and hang seed corn.

How to furrow for surface irrigation.

How to select and cut seed potatoes.

How to detect weed seed in clover, etc.

How to set and prune tomato plants.

How to make a fruit-tree graft.

How to set a hen.

How to weigh and test milk.

How to break, mount or drive a horse.

How to spray trees or vegetables.

How to take up and replant a tree.

How to make bird-houses, fly-traps, etc.

**Play contests.**—While the study of agriculture must be a serious business, there is no reason why the spirit of play should not enter into certain phases of the work. The motive of competition and the game can be used to great advantage in such exercises as the following:

Seed corn stringing or judging contests.

Soil variety naming contest.

Potato judging, naming or paring contest.

Contest in packing and crating fruit for shipment.

Story writing contest on suitable agricultural topics.

Garden making and planting contests.

Plowing contest.

Rope-tying contest.

Bird naming or describing contest.

It is, of course, obvious that any of the demonstration exercises can be made competitive and the contest spirit introduced.

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<sup>1</sup> See Benson and Betts, *Agriculture*, for many demonstration and play contest exercises.

**Making collections.**—The strong collecting instinct of children can be used to good advantage in the study of agriculture. Every child will, under proper guidance, enter heartily into the project of making a collection of material for himself or, jointly with others, for the school. Not only is such work a stimulus to interest and observation, but it results in assembling valuable material for use in instruction. Such collections as the following are adapted to elementary pupils:

- Samples of soil in uniform labeled bottles.
- Specimens of seeds of all local cereals.
- Seeds of troublesome weeds common to the vicinity.
- Specimens of grasses and legumes.
- Varieties of corn.
- Specimens of injurious worms and insects.
- Specimens of native woods.

In addition to such collections, much valuable material can be secured free from various commercial concerns showing the process of manufacture of different foods, fabrics, implements, etc.

**The use of note-books.**—The note-book is a valuable help in teaching agriculture. The pupils should be provided with note-books of uniform size. In these should be kept a record of all demonstrations, experiments, field trips, excursions and observations. Here should also be worked out all the exercises and problems required in the text, and those assigned by the teacher. Drawings, diagrams, tables or any other matter brought into the course should find their way into the note-book. Pictures of farm animals, crops, machines, farm buildings and the like, should be assembled and form a part of the record of the course. Every note-book should be neat and well kept, and arranged in a businesslike manner.

**Junior extension work.**—This is the name under which boys' and girls' agricultural club work is coming to be known. Originally organized on a wide scale by the United States Department of Agriculture in cooperation with the state agricultural colleges, the work has now grown until many thousands of boys and girls in all parts of the United States are studying (and practising) scientific agriculture under the direction of specialists.

It is the desire of all leaders of the junior extension work to connect it as closely as possible with the public schools. This should be done. It will help the club work and vitalize and stimulate the study of agriculture in the schools. Teachers should everywhere seek the help of these specialists and look toward cooperating with their work. Information concerning how to proceed can always be had by writing the state college of agriculture or consulting the county agricultural agent.

Club work may be defined as the carrying out of some definite farm, garden or home enterprise in accordance with certain specified directions and regulations. For example, corn-club boys or girls agree to produce an acre of corn on a business basis, doing all the work themselves and keeping an accurate record of the enterprise from beginning to end. Boys and girls from ten to nineteen years are eligible. The basis of scoring credit for the work may be as follows:

Greatest yield per acre.....	30
Best showing of profit.....	30
Best exhibit of ten ears.....	20
Crop record and story of "How I Made My Crop".....	20
Total score.....	<u>100</u>

Other suitable club enterprises are:

Rearing, care and marketing of poultry.

Raising and canning one-tenth acre of tomatoes.

Market garden club.

Feeding, caring for and marketing one or more pigs.

Any home or farm project that can be given quite completely into the child's care and made to show definite results.

## QUESTIONS AND PROBLEMS

1. Note carefully the aims proposed in the way of *knowledge*, *attitudes* and *skills* and decide whether these meet with your approval. If so, do you keep them before you as you teach in order to make your instruction more definite?

2. Are your boys and girls good observers? What methods do you employ in teaching agriculture to improve this power? Do you definitely prepare yourself and class before a field trip so that specific problems or questions are in mind for observation and study?

3. Are you careful not to let agriculture become a text-book subject? On the other hand, you will need to be equally careful that text-books are studied in connection with all the topics so that a scattering, superficial knowledge may not result from incomplete understanding.

4. What home projects have your pupils under way? Do you manage to supervise these to some degree? Do you find that such work makes pupils anxious to study on their project at school? Have you won the support of the homes to this line of work?

5. Who is your state agricultural club leader? Your county agent? Could the club idea be promoted to advantage in your school? What government and state agricultural bulletins has your school library on hand? Are these well classified and taken care of? Are they fruitfully used?

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The U. S. Department of Agriculture, Washington, D. C., distributes hundreds of bulletins on all agricultural subjects free.

The state college of agriculture in each state supplies free of charge to residents many bulletins, outlines, etc., of great value in teaching agriculture.

## CHAPTER XX

### HOME ECONOMICS

**A**LL education, as all industry and endeavor, should finally lead to the art of good living. This demand naturally reaches to the home. To maintain good homes is one of the highest ideals either for individuals or nations. School training should not neglect this most important phase of education.

Since so large a proportion of our children fail to reach the high school, it seems desirable that certain fundamental training in home economics shall be given in the grades. It has been estimated that twenty-five per cent. of food cost is to-day wasted because of inefficiency in the matter of buying, preparing and serving foods. A similar waste obtains with reference to providing and caring for clothing. Unquestionably much sickness could be prevented if better sanitation were practised in the homes.

#### *The Aim—What is to be Accomplished*

High technical skill or expert knowledge is not to be expected from the training in home economics that can be given in the grades. It is possible, however, to equip the pupils with certain concrete and important knowledge, to develop in them certain desirable attitudes, and to train them in certain practical skills which will go far toward making better homes.

**Knowledge required.**—1. All children should be taught the untechnical but fundamental knowledge concerning the

values and sources of food materials. Added to this should be a knowledge of how to purchase, and (for girls) cook and serve the common foods.

2. Both boys and girls should be given instruction concerning clothing, its various fabrics and their manufacture into articles for wear. This should also extend to the care of clothing.

3. All should likewise be given a knowledge of shelter, or the materials of which houses are built and furnished, together with how to make the home sanitary, convenient and attractive.

4. Also a knowledge of the value of money, and the business of the household, how to buy and sell in connection with home supplies, and how to keep simple records or accounts of receipts and expenditures.

5. A knowledge of how to plan, decorate, furnish and keep a house in such a way as to secure the best harmonious and artistic effects from the resources available.

**Attitudes to be developed.**—It is perhaps even more important, if possible, that right attitudes and standards shall be developed than that knowledge shall be gained with reference to the home. Such attitudes as the following should be cultivated:

1. A sense of personal responsibility and willingness on the part of girls to undertake the ordinary duties of the home and carry them out with high standards of performance. A similar attitude of willingness on the part of boys to do their rightful part in carrying on the activities of the home and making it a pleasant and attractive place.

2. A fundamental respect for work, and for the occupations that have to do with supplying the economic necessities of life, or maintaining the comfort and welfare of the home.

3. Interests that will lead to further reading and study

with reference to all problems involved in the making of a good home.

4. Pride in good housekeeping as expressed in neatness, order, cleanliness, and such other qualities as go into good housekeeping. A desire to make the home beautiful from the esthetic point of view.

5. A tendency to saving and thrift such as will conserve the resources available for supporting the home.

**Skills to be trained.**—The study of home economics should also result in the training of definite skills which should find their first application in the homes of the pupils.

1. Skill in sweeping, cleaning and caring for the house, so that its appearance may be made attractive and its condition sanitary.

2. Skill in the preparation of simple dishes without recipes and in the serving of food so that it will be hygienic and attractive. Also skill in preparing a new dish from a recipe.

3. Ability to do simple hand sewing neatly, to use the sewing-machine, and to cut, alter and fit simple garments from pattern. Also such skill in laundering as will make clothing clean and sanitary, and result in a saving of the fabrics.

4. Skill in planning expenditures and making a budget for the home so that each department, as food, clothing, recreation and the like, shall have its fair share of the amount available.

5. Skill in keeping the person well-dressed, cleanly and attractive in appearance.

### *The Material for Instruction*

Home economics, like agriculture, should be correlated with other subjects throughout the earlier grades. It will not claim a separate place on the program except in the sev-

enth and eighth grades, and may then be limited to two lessons a week. The work will center about three great topics, *food, clothing and shelter*.

**Subject-matter for the earlier grades.**—The work should correlate directly with hygiene, language, geography and arithmetic. The material to be taught will consist of the simpler aspects of food, clothing and shelter. Such topics as the following may be taken up:

*Foods.* 1. What foods the children like; what they eat; best foods for boys and girls; foods that are not good for children.

2. Cereal foods; kinds; best are the cooked foods; how to serve.

3. Why eggs are a good food; best ways to cook eggs; how to keep eggs fresh.

4. Fruits as food; why needed; best fruits; how prepared and served; where fruits are raised.

5. Why the body needs different kinds of foods (to build tissues, supply energy, regulate); the foods that supply *protein*; that supply *carbohydrates*; that supply *fats*; that supply *mineral* matter (only a general explanation at this point).

6. A census of the vegetables produced in the home gardens; uses served by vegetable food; other vegetables that children might learn to eat; preparation and serving of common vegetables.

7. Wheat as a food; uses of flour; where produced and milled; bread making; brown and white bread.

8. Cooking utensils used by various peoples; kinds of stoves and fuels; primitive modes of cooking; why foods are cooked; value of good cooking and serving; how to cook certain common foods; setting the table, serving, etc.

9. What boys and girls can do to help in producing, preparing and serving food in the home; in the garden; in the kitchen; in the dining-room; running errands.

*Clothing.* 1. What we require of clothing ; must be comfortable, adapted to our work, wear well, attractive in appearance, warm in winter, cool in summer.

2. Kinds of fabrics in clothing worn by the pupils ; where cotton comes from ; where woolen comes from ; where linen comes from ; where silk comes from ; uses of different fabrics, and their care.

3. The manufacture of cotton, woolen, silk and linen cloth ; making the material up into garments ; how the cloth is dyed.

4. Keeping clothes clean ; methods of laundering in different countries ; methods that save or injure clothing ; washing machines ; soaps ; irons and ironing.

5. Making of garments by hand and machine ; learning different hand stitches and where they are used ; cutting by pattern ; mending worn garments.

6. What boys and girls can do to help about their clothing ; care in play ; unnecessary soiling ; hanging up when not in use ; sewing on missing buttons ; keeping brushed ; taking out stains or spots.

*Shelter.* 1. Why we make our homes in houses ; other forms of dwellings used by different peoples, such as caves, tepees, tents, snow huts, etc.

2. Different articles of house furnishings ; what house furnishings are used by other peoples, as Indians, Chinese, etc.

3. Materials used in building our houses ; where the lumber, brick, stone, cement come from ; how produced ; names of occupations involved, as carpenter, mason, etc.

4. Making the house attractive ; suitable colors for exterior ; how rooms are made pleasing ; wall-papers ; paints ; woodwork, stained or painted ; draperies, etc.

5. Care of house ; cleanliness by sweeping, dusting, scrubbing, keeping windows clean ; keeping things in order ; pick-

ing up papers, books, clothing, etc., and putting in proper place.

6. How houses are heated ; heating used by other peoples ; where coal comes from ; mining the coal ; keeping houses ventilated ; keeping the air moist in winter time ; sleeping with open windows.

7. How boys and girls can help in keeping house in order ; not scattering books, playthings, articles of clothing, etc. ; cleaning feet on wet days ; helping with sweeping and dusting ; keeping the yard in good order.

**Seventh- and eighth-grade material.**—The subject-matter to be taught in home economics has not been so fully standardized as that in arithmetic, geography, etc. This is partly because the branch is still new, and partly because the instruction must be determined with reference to the time and equipment available. In general, the caution needs to be urged *not to attempt too much at one time*. It is usually better to carry on but *one line* of study, as foods, or clothing, at a time.

No detailed analysis of material need be given here. Excellent outlines are now supplied by state or district authority wherever the subject is taught. The following suggests the general scope of the work which, as already indicated, must be adapted to local needs and conditions :

*Foods and Cooking.* 1. A study of the kitchen, its arrangement, and best utensils ; care, cleaning, furnishing.

2. The body's need of food ; different kinds required ; articles of diet that supply each element ; effect of cooking on foods ; how to cook the common foods ; stoves and fuel ; the fireless cooker ; the refrigerator.

3. Planning a meal ; the balanced ration ; economy in the use of foods ; food preservation and storage.

4. The serving of foods ; setting the table ; dining-room

arrangement; courses; clearing the table; the duties of hostess; of host.

5. Home canning; fruits; vegetables; meats.

*Textiles and sewing.* 1. Equipment for sewing; the work-basket; the sewing-table; the sewing-machine.

2. The different textiles; production and history; adaptation to different uses; dyes and coloring; how to select and buy materials; taste in dress.

3. Textiles for draperies; rugs; other home furnishings; harmonies of color and effect.

4. Hand sewing; stitches and where used; darning and mending; cutting garments; machine sewing; the complete making of simple garments.

5. Care of textiles; protection from moths, etc.; laundering; equipment; hard and soft water; soaps; starch; washing of woolen and silks; ironing and folding.

*The home.* 1. The house plan; study of different plans; materials; finishes; lawn and grounds.

2. House hygiene; forms of dirt and their dangers; methods of cleaning; sweeping and dusting; elimination of rubbish.

3. Heating and ventilating; forms of house heating; ways of ventilating; humidity and how maintained.

4. Personal cleanliness; bathroom and its arrangements; other conveniences.

5. Home and health; simple remedies; the medicine case; emergency treatments, bandaging, etc.; the sick room and its care.

6. Management; planning the day's work; division of labor; standards of order and neatness; work and recreation.

7. Financial management; income and expenditure; proper distribution of expenditure, as for food, clothing, etc.; the study of typical budgets; household accounts.

8. Buying; personal versus telephone orders; buying of meats; vegetables; fruits; clothing; furniture; fuel.

9. Selling; establishing a market; packing and labeling; fruit; vegetables; eggs; butter and milk, etc.

### *Organization and Presentation*

Domestic science, like agriculture, is a subject that must be made very concrete and its lessons carried at once into effect if they are to serve their purpose. There is small value in teaching our girls general and detached facts about food, clothing and the home, if it is to end in *mere* information. What we must do is to lead them to *apply what they learn in doing* with greater intelligence and skill to the things that need to be done in the home.

**Connecting school and home work.**—There are three distinct but intimately related phases of instruction in domestic science: (1) the study of facts, principles, rules in the text-books, the recitation or the laboratory; (2) the application of these truths in the school laboratory under the direction of the teacher; and (3) the carrying of this knowledge and skill over into home practise. The last of these should also be under the general supervision of the teacher (or special supervisor) wherever possible. *Not until the instruction has taken effect in real housekeeping and there become a standard of action is the responsibility of the teacher ended.*

This point of view suggests that the teacher's plan for instruction must include *recitation* work, *laboratory* work, and *home project* work. After a topic has been discussed and demonstrated in class there should be definite home application made wherever possible. For example, a study of cereal foods may lead to one pupil planning, cooking and serving the breakfast cereals at her home for a week or a month,

after which she makes a report of her problems and success. Another may do the same with vegetables, desserts or the whole meal. A third may take charge of sweeping and dusting or bed-making. Still another may be from a home where a new house is being built or furnished or an old house being repaired. All members of the class will be planning for new clothes. It is in connection with these practical and immediate interests that the best work (the only really valuable work) can be done.

**Laboratory work in the rural school.**—The new consolidated rural schools usually supply laboratory and equipment for domestic-science work equal to that in town schools. The one-room rural school is, however, at a serious disadvantage. Yet much excellent work is being done in many such schools. In some cases the district has equipped the basement for a laboratory; in other cases the equipment must be used in the general room. The laboratory material should be supplied from the funds of the district, but this is not always done. Many rural teachers have had school entertainments to secure money for equipment. In other places the patrons have had a domestic-science "shower" for the school laboratory. The following minimum list of cooking utensils for a one-room school is recommended:<sup>1</sup>

1 gal. double boiler.....	\$1.00	2 teaspoons .....	\$0.05
1 qt. sauce pan.....	.15	1 wooden spoon.....	.10
1 three-qt. enamel pan (for baking).....	.25	1 can opener .....	.10
1 cover for enamel pan.....	.05	1 soap dish.....	.05
1 tin tea kettle with copper bottom .....	.75	1 grater .....	.05
2 dish pans at 25c.....	.50	1 three-qt. mixing bowl....	.25
2 baking pans at 15c.....	.30	2 two-qt. bowls at 15c.....	.30
2 agate pie tins at 10c.....	.20	1 bread board.....	.30
1 flour sifter.....	.10	1 rolling pin.....	.10
		1 can for garbage (enamel pail and cover).....	.35

<sup>1</sup> From *Iowa Report of Committee on Elimination*, page 103.

6 qt. jars.....	.70	1 scrubbing brush.....	.05
6 small glass jars.....	.30	1 vegetable brush.....	.05
1 pepper shaker.....	.05	1 broom .....	.25
1 Dover egg beater.....	.10	1 dust pan.....	.10
1 whip beater.....	.05	1 doz. box labels (made by	
1 potato masher.....	.10	pupils)	
1 sieve .....	.05	Cheesecloth	
2 tin measuring cups.....	.10	3 holders (made by pupils)	
1 dipper .....	.10	1 oven cloth	
1 bread knife.....	.35	1 coffee can for flour	
1 case knife.....	.10	3 baking powder can tops	
2 paring knives at 20c.....	.40	for cookie cutter.	
1 spatula .....	.40		
2 tablespoons .....	.05	Total .....	\$8.25

Many rural schools are giving practical training in domestic science by serving hot noonday lunches. Where this is done, each child may bring his own dishes from home, or the school may purchase a supply such as the following:

1½ doz. teaspoons @ 30 cents per doz.....	\$0.45
1½ doz. soup spoons @ 40 cents per doz.....	.60
1½ doz. forks @ 40 cents per doz.....	.60
1½ doz. plates @ 60 cents per doz.....	.90
1½ doz. cups and saucers @ \$1.20 per doz.....	1.80
1½ doz. glasses @ 50 cents per doz.....	.75
Total.....	\$5.10

Probably the best stove for the rural school is the two-burner, blue flame kerosene. With the oven it costs from nine to ten dollars. A kitchen cabinet for utensils and a cupboard for dishes should also be supplied. The total equipment as here described can be bought for twenty to thirty dollars.

**Practical results.**—The following extracts from letters written by Iowa rural teachers indicate the excellent results that may be accomplished through the noonday lunch hour:

"Our food was always satisfying and easily made. For example, if we were going to have mashed potatoes and gravy, several children were appointed to pare the potatoes. They did this at recess. Also, fire was started and water put on to heat. After school had been called, when I noticed that the water was boiling I would signal one of the children to put the potatoes to cook. As soon as this was done the child would go back to his seat and proceed with his lessons. At gravy-making time a different one was signaled to attend to the gravy. Another was called upon to mash the potatoes. Books were laid away at eleven fifty-five, desks cleaned and hands washed. Here was a chance for the smaller ones to help. Waste paper baskets must be passed, napkins distributed, knives, forks and spoons placed. One of the older pupils served the potatoes directly upon the plates and then passed the plates to another pupil who served the gravy. The medium-aged children carried the served plates to the desks. This was continued until all were served. The cooking dishes were put to soak and all went to their seats.

"When all were seated, eating began. When the meal was finished all excused themselves and if they had no work to do, they went out-of-doors to play. Those who had work had certain jobs to do such as gathering up dishes, removing crumbs, getting the kitchen in readiness for washing dishes and so forth. We kept a posted list so that there was no mixing up on work. Generally I had four helpers. One for washing, two for drying and another to help with the sweeping. It was always necessary to sweep at noons. We used a sawdust sweeping compound. In this way we managed to eat and get everything in shape again before one o'clock. All the workers had from ten to twenty minutes at noon for play."

"Besides the demonstration work I require my girls to keep home economics note-books, neatly written with pen and ink. All recipes, reference notes, etc., must be kept in these books. This work is easily correlated with their written language lessons, and it is a source of pleasure to my girls, for nearly all of them are greatly interested in 'keeping up their books.'

"The work in domestic science carries over nicely with the

home work of the children. I have required now and then, that the girls make some certain recipe at home over Saturday. Nearly always they do this whether I ask it or not. When we make a good recipe at school, nearly always the pupils are anxious to try it at home. I think it has also brought the girls' home and school work closer together, for instance: One Friday afternoon we invited all the mothers of the district up to the schoolhouse. They came early, watched the preparation of the lunch by the girls, and were then served by them. The girls were all anxious to do their best."

"I usually spend one hour Friday afternoon for sewing. The cooking is done mostly during recess, noon hour or before school in the morning. Soup has been a favorite with us. Corn soup, potato soup, tomato soup, vegetable soup and bean soup are mostly made. We made other things besides the soups. Rice, beans, beef, apples and cabbage were cooked. Of course we studied the composition of the different foods, peculiarities, etc. Recipes were placed on the blackboard and pupils copied them.

"I generally appointed two or three girls or boys to take complete charge of the noonday lunch. In this way each could be given actual practise in serving, washing dishes, etc.

"The boys were as interested in the domestic science as the girls.

"When a new dish was made at school the pupils would tell me the next morning about their experience making it at home the night before. The parents were very much interested. They furnished dishes, pans, kettles and supplies."

**Problem work.**—The management and care of a home presents many very real and difficult problems. Training in domestic science should involve similar problems, typical of those constantly to be met in the home. These problems should be as genuine and immediate as possible and be assigned for definite study, investigation and discussion. The following are suggestive of suitable problems:

A certain class of vegetables or fruit is very high in cost; provide substitutes.

A house basement is damp; find a remedy; cost.

The doctor has forbidden a certain person to eat meat; plan diet.

How to keep humidity of heated rooms right in winter.

The ventilation of a sleeping-room; of the school room.

A pest of flies are troubling a certain home; locate cause and remedy.

A house is to be remodeled; make plans.

How to dispose of refuse and sewage where there is no sewer.

Given a certain amount to spend for dress; how to divide it.

A complete list of furnishings for a bed; winter; summer.

The kind of rugs to buy.

A floor or woodwork needs refinishing; material; colors; cost.

Keeping an itemized account of household expenses.

### QUESTIONS AND PROBLEMS

1. What is the law, if any, covering the teaching of domestic science in your state? Is the law being carried out in practise? Is your school doing its share? Is it seeking to lead?

2. Have you adequate equipment for teaching domestic science? If not, have you considered means for adding to it? In most communities there is no trouble in raising funds either (1) through direct appropriation by the school board, (2) by solicitation by pupils and teacher, (3) by contributions of utensils, etc., by patrons, or (4) by means of a school entertainment.

3. What plan should be taken to pay for current supplies used in the laboratory or for noonday lunches where there is no distinct fund available; shall (1) each pupil furnish certain articles, (2) each contribute a small amount of money, (3) a fund be raised by an entertainment, or (4) some other plan be used? Work out a statement of advantages and difficulties for each plan.

4. What method do you employ to interest the boys in the phases of domestic science which they should study? How do you cultivate the cooperation of the parents? Have you had a patrons'

luncheon prepared and served by the pupils? What are the advantages of such a plan?

5. What books, bulletins, etc., on domestic science has your school library? Do you keep the library growing? Do you *use* it? Do the children take the material home so that the parents may become interested in it? *In what ways is your instruction improving the home life of your community?*

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## Part Three: Class-Room Management

### CHAPTER XXI

#### MANAGEMENT AND THE RECITATION

THE value of good management is more and more being recognized in business and industrial concerns. Every effort is made to eliminate waste of effort, time and material. The scientific expert with his stop-watch dictates what movements shall go into the laying of a brick or the packing of a box. The farmer with his scales decides which cow shall go to the dairy and which to the block. We pay fabulous salaries to men who can so manage a business that the largest returns shall be realized from its activities.

The same necessity for good management exists in teaching; for the best of instruction may be defeated by poor management in the class room. The problems of class-room management center about two great aims: (1) to supply the most favorable conditions under which the work of instruction shall go on; (2) so to direct the associations and procedure of the class room that they shall in themselves prove a means of education and development. While these two aims should never be separated in fact, and need not be for our discussion, they should both be kept distinctly in mind in managing the class room.

#### *Measures of Good Management*

What are the objective measures by which a teacher may judge the success of his own management, or by which

he should be judged by superintendent or principal? What are the characteristics of a well-managed recitation?

**All activities must advance the work in hand.**—This is the test that the business concern would employ; it is the test teachers should employ. If one studies the activities going on in a poorly-managed office, store or shop, he will note that there are too much confusion, too much busyness that does not count, too many distractions, and too little driving directly ahead for results. In a well-managed concern all is different; none of this futile waste is in evidence, but all moves forward with ordered precision and effectiveness. Precisely the same principles apply to the class room. In the poorly-managed recitation there may be much of life, even of enthusiasm, but there is too much loss of time and effort, too much aimless activity, too little arriving at definite results.

In the well-managed class room all moves smoothly and without friction. The observer would realize that a carefully-conceived plan was being carried out, but would be unable to discover the controlling mechanism. There is an absence of friction. There is no loss of time. There are no unnecessary distractions. There may be more or less of noise and bustle; that will depend on the nature of the work. For example, a class in laboratory work or shop work can not maintain the quiet of the ordinary recitation room. Nor is this necessary. This is the test: *Is all that is going on advancing the purpose of the recitation?*

If this can be answered in the affirmative, the management is in so far good. If it must be answered in the negative the teacher should at once go to work on the problem involved. The pupils can not too early be brought to see that the school is their *business*, and that the same principles must apply in the class room as in business outside—*each one must do his share to make the business a success*. None

must, through inattention, mischief, or any other defect of behavior, lower the output of the school concern any more than he would be allowed to do so in a business concern.

The application of this simple and obvious principle will do away with the necessity for a complex and extended set of rules. One boy, when he was rebuked by his teacher for some act, said he did not know it was against the rules. The teacher replied that there was no rule on the matter, and asked him whether he thought such an act helped or hindered the work of the school. He readily agreed that from this point of view his act was wrong, and by so doing committed himself to better conduct. Many school offenses should be judged, not on the usual moral grounds, but by the standard of *promoting or injuring the business of the class room*.

**Motives for control to be largely subjective.**—The best control is self-control. The best-managed class room will therefore afford the largest possible freedom for self-direction that can be successfully employed. This proposition does not favor lax control, slack government, or weak discipline. Far from it. Every wise teacher has for the first plank in his platform of management *high standards of order and a rigid meeting of reasonable requirements*. The question turns on how this condition is to be brought about. Far better bring it about by the teacher's direct authority, and even by punishment, than not to secure control and order in the school. But better yet if the pupils develop such an interest in the school, such standards of personal conduct, and such loyalty to the work of their group that each governs his own conduct for the good of all.

The school or class room that does not place a considerable burden of personal responsibility on the pupil is cheating him out of a part of his education. For to be obliged constantly to find the warrant for one's conduct in some au-

thority outside of himself is to leave him in some degree undeveloped in his moral nature and a slave to circumstances. And self-control, like any other power, develops through its use.

This does not mean that the teacher shall at any time cease to be a factor in the control of the school. It rather means that his control should become increasingly *indirect*. It is easy enough for any person of intelligence and force, especially with the authority of the law behind him, to control a school by direct compulsion. But to control it by stimulating the pupils' interest in achievement, by arousing their better natures, by appealing to their sense of justice, loyalty and fair play—in short, to put the reins of conduct into their own hands, but make sure at the same time that they handle them aright, this is an altogether more difficult task. An *objective* military régime of class-room control is easy—it may even be cheap; a *subjective* moral régime is difficult to set up and maintain, but it bears rich fruit in character.

### *The Spirit of the Class Room*

The importance of the group spirit can not be overestimated in class-room management. Public opinion is one of the strongest forces operating in society. Let the spirit of the class room be good, and details of conduct will cause relatively little trouble. But let the attitude be bad, let loyalty to the school and the teacher be at a low ebb, let the bonds of class spirit be weak, and many of the best and strongest incentives are lost.

**Cultivation of class-room spirit.**—Pupils often fail to realize the identity of interests between themselves and the teacher. There is not a little hidden tension, if not overt antagonism, between teacher and class in many schools.

The children often think of themselves as on one side and the teacher on the other. If they can play tricks, evade requirements, or oppose regulations without getting caught or punished, they feel that they have achieved a victory. This attitude, so greatly to be lamented, is probably in most instances to be blamed against unfortunate school experiences of the children rather than laid to any natural antagonism inherent in their own natures. The real inner tendency of most children is toward cooperation. Given the right incentives and conditions, and they will as devotedly work *with* the teacher as they will heartily work *against* him under different conditions.

It is all-important that the teacher shall clearly realize this encouraging truth. For it is a much more inspiring task to set one's self to win loyalty and cooperation that are lying ready, even if fallow, than to overcome natively inherent opposition. The teacher who has an abiding faith in human nature will also win a thousandfold better response from children than one who is naturally suspicious. On the whole, one finds in others, even if they be children, very much what he expects and looks for.

**The spirit of the surroundings.**—No small factor in creating the class-room spirit is the room itself. More than one teacher has found the spirit of a class thoroughly transformed by the class being moved from a dingy, disagreeable, oppressive room to pleasant, attractive and artistic surroundings. Good equipment, clean floors and well-decorated walls, good pictures, and whatever other features will compel admiration and stimulate good feeling are sure to be reflected in the spirit of the class. Let one who doubts this statement himself try living for a time in a house that is undergoing repairs or that for any other reason has things strewn about in topsyturvy fashion and is none too clean. If the spirit of the surroundings does not find expression

in his own attitude he is a rare exception to a common rule of experience. There is a deep moral value in the esthetic that is too often overlooked in school surroundings.

**Influence of the community spirit.**—It is an American custom to speak out unreservedly in criticism of any public act or institution that may not please. Such criticism, if well considered and directed at real faults, is helpful. Irresponsible criticism, or faultfinding based on mere whim or biased report, may often do much harm. The public school suffers from too much criticism of this irrational type. The child goes home with a grievance or a complaint and the parents are outspoken and often bitter in their criticism of the teacher or the school. The bit of poison planted in the child's mind by thoughtless criticism can not but vitiate in some degree the atmosphere of the room to which he belongs.

One of the insistent problems confronting the teacher, therefore, is to have his work stand well in the community. This is not to be accomplished by any shallow social acts or pleasing devices aimed to attract public acclaim. It is, rather, so fully, honestly and completely to enter into the spirit and life of the community that the response toward both one's work and himself is of a spontaneous loyalty, such as any community stands ready to give to skilled effort and unselfish devotion.

**Interest and class-room spirit.**—The only true and permanent class-room spirit must spring from interest in the work. Only as one's tasks are congenial and satisfying does he give himself loyally and whole-heartedly to their accomplishment. The class who are at outs with a certain study, and feel it but an empty grind, can hardly be in good spirit while working or reciting upon it. No small part of the trouble caused by mischievous or antagonistic pupils

can unquestionably be traced to the fact that they "don't like" grammar, or "don't see anything to" literature.

The problem is one of being able to command the deeper enthusiasms. More than one unruly boy has been turned into a loyal supporter of the school through his newly-found interest in manual training, agriculture, current history or some other subject. To develop the right school spirit we must *get hold of the work interest of our pupils*. Experience has many times shown that this is the only anchorage strong enough to hold the deeper loyalty either of children or adults.

**The influence of leadership.**—The influence of leadership is a school factor always to be reckoned with. Without any election or appointment to the position, certain pupils naturally step into the place of leader and impose their attitudes and ideals upon their followers. Every class group has one or more such leaders. Happy is the teacher who can, through his own greater power of leadership, cause the leaders of their groups to lead them in the right direction. The wise teacher will know from the start that school-room misdemeanors and disorders which involve considerable numbers of pupils usually have their storm center in the suggestion or control exercised by some mischievous leader. Once this source of disturbance is discovered and turned into a supporter of the school régime the battle is largely won.

### *The Personal Factor in Class-Room Management*

Teachers probably differ fully as much in executive, or managerial, ability as in intellectual attainment. Some personalities naturally command respect and cooperation, while others seem to invite antagonism and disloyalty.

**Decision and poise of character.**—Half unaware to themselves children rather unerringly read the inner nature and characteristics of their teachers. One boy remarked that he would rather have Miss A scold him for half an hour than to have Miss B give him one good look. On being asked what was so dreadful about Miss B's look, he said, "Oh, she doesn't look *cross*, but you just feel that she doesn't expect you to do that again." Without understanding it himself this boy had sensed the difference between a vacillating nature and a personality secure in its poise and decision.

Poise, or decision, is worth while in itself, and should be cultivated even though it were not needed in the school room. This quality of personality does not come by chance; it rests on a sense of mastery and power. One who is not certain of *himself* can never impress others with his poise, for he will not possess it. Let the teacher who feels the lack of poise and decision master his problems; let him feel that he is in command of his subject; that he can teach it effectively; that he understands his pupils; that he knows how to govern as well as teach—let him reach the self-confidence that comes from *certainty*, and there will be no trouble about his poise. Decision will then radiate from every act and attitude.

On the other hand, let any teacher doubt his ability to cope with the problems that confront him, let him feel uncertain of his mastery and power, and the crippling effects of his attitude will be revealed in his very bearing and manner. *The way to develop poise and impressiveness is to get mastery!*

**Uniformity of demands.**—This quality is closely related to the one just discussed. To be strict to-day and easy to-morrow is sooner or later to forfeit something of the respect, if not of the good will, of the school. In spite of

the fact that teachers are human, and that brains do get fagged and nerves frayed, it pays to do one's best to rise above one's moods or whims and *be the same from day to day*. It was no great compliment that a certain student paid his teacher when he warned a classmate about to enter the room which he himself had just left, "Look sharp, the 'old man's' nerves are on a tear to-day!"

Classes themselves are variable. They have their good and their bad days, and need to be judged accordingly. Probably every teacher has also observed the tendency of schools to "run down" near the end of a term or just before a holiday or some special event. The teacher's ideal should be to equalize all these fluctuations in his school by an increase of his own power, inspiration and effectiveness. These must act as the governor acts on an engine to steady its motion if the school machinery is to run effectively.

**The futility of scolding.**—Scolding is a mistake. It has little or no place in the class room. It may temporarily work on some particular occasion, but the reaction from its effects is generally costly to the respect of the teacher if indeed not to his authority. Scolding has a strong tendency to grow into a habit, and then it is far worse than useless. The scolder usually says more than he intends and far more than could do any good. Not infrequently indignation increases with its expression, and the mild reproof grows into a tirade, which is remembered with shame and humiliation.

The following incident, which came under the writer's observation, illustrates the fate of the scolder: A group of girls just graduated from high school were discussing their teachers, and commenting on their characteristics. One of the group remarked: "Now, there is our principal; maybe you think we didn't make things interesting for him! We girls used to meet together evenings to devise ways to torment him." On being asked why they had a pick at this

particular teacher, she replied: "Oh, we really had nothing against him; we only wanted to see him 'perform,' and he never disappointed us. We were willing to take any sort of scolding just to get him started upon a tirade."

Scolding is bad from another point of view. It deals in *negatives*, which are on the whole not helpful or inspiring. Children need occasionally to be told of their faults. They need correction. They may even require punishment. But they should not be nagged. They should, as a rule, be led rather than driven. They should be fed on *positives*, rather than on negatives.

One of the first qualities the teacher should cultivate, therefore, is the ability to be strongly insistent without undue sharpness; to be stern without being "cross"; to be entirely immovable and severe when occasion demands it, without blustering, threatening or losing the temper. In short, to be so thoroughly sure of himself and secure in his self-control that he is justified in exercising control over others.

### *Class-Room Routine*

By class-room *routine* is meant the set of movements and activities involved in calling and dismissing classes, passing and collecting materials, rising when reciting, responding to the roll-call, or doing any other of the many things *which must frequently be performed by all*. All of these common movements which include the whole class should rigidly follow a definite plan or routine.

**Routine saves time friction.**—Every skilful manager, whether in factory, office or school, uses a fixed routine wherever it will not interfere with individual initiative or efficiency. Such a system saves time, eliminates friction and confusion, and reduces the strain on attention.

The teacher should from the first day have a simple but

definite plan for carrying out each part of the mechanics of the class room. The signals for calling and dismissing the class should always be the same, and should be followed to the letter. For example, if the class are to *stand* at a given signal, then none should be permitted to loiter, nor to start ahead of the others. If all are to remain standing until the last one has reached his position, then none should be allowed to be seated until the right moment. If papers are to be handed in folded in a certain way, then no other way should be accepted. If they are to be collected in a certain order in the class, then this precise order should be insisted upon. In short, it is impossible to be too insistent on these seemingly small matters. The difference between good management and poor management often turns on just such factors.

**Routine and habit.**—Some may feel that requirements of such rigid sort savor too much of the military and have no place in the school. This objection overlooks the fact that one of the chief features of the child's education is *training in obedience*. One of the besetting weaknesses of children (and adults?) is carelessness. "I forgot," "I didn't mean to," "I didn't think," are all evidences of need of training in obedience to requirements of some kind. The child who has not learned to *follow directions*, and follow them to the letter, has been deprived of an important part of his training.

Nor is the following of a reasonable class-room routine any hardship to the children. It is as easy in the end to do a thing right as wrong. It is as easy to learn to do it each time in the same way as to be haphazard about it. Children of elementary school age easily lend themselves to routine training. They like to march in order, perform drills together, or carry out other group movements. They are at the best age for forming habits of accuracy, promptness and

cooperation. A good school routine, kindly but firmly carried out, is one of the best methods of training such habits.

**Routine a measure of the teacher.**—While there are many other factors besides routine in good management, there is none by which a teacher's skill in management can better be judged. The chance visitor who looks in upon a class in which all the mechanical activities are seemingly moving without direction or attention, but are moving nevertheless like clockwork, is justified in expecting other phases of management to show equal efficiency. On the other hand, if the class lacks *esprit de corps*, if the pupils saunter up and drop into the recitation seats at will, if they have no orderly way of responding to signals, if they have no common method of doing the same frequently required things, then it is fair to conclude that the teacher lacks executive ability. For the standards of the teacher are finally reflected in the management of the class room.

### *Physical Conditions in the Class Room*

Efficient class-room management does not overlook the physical conditions. These are important both for their bearing on the success of the recitation and for their relation to health. Beyond doubt much of the physical lassitude and mental dulness observed in many classes come from the unhygienic conditions of the class room. No small proportion of the colds, sore throats, or even worse troubles, are blamable to the same source.

**Fresh air to breathe.**—No teacher needs to be instructed in the evil effects on both mind and body which come from breathing vitiated air. Knowledge of such facts is a commonplace. Yet our school rooms are not always well ventilated. The teacher has many things demanding his attention,

and the air of the room may become stale or overheated or too dry without being noticed. We all *know* much more hygiene than we put into practise, even where the interests are not so vital as in a room full of children.

Good management will insist (1) that the air in the class room be *in circulation*, either from an adequate ventilating system or by means of open windows so managed as to protect from direct drafts; (2) that the temperature be from sixty-five to seventy degrees; (3) that the heated air in winter shall have a sufficient amount of moisture. To make sure on these points, the room should be equipped with a thermometer so placed as to register fairly for the entire room and a hygrometer of some simple type for the recording of atmospheric moisture. These instruments are fully as necessary as charts and blackboards, and should at once be added to rooms where they are lacking.

**Freedom from dust.**—The sweeping and dusting of many school rooms are hardly up to the standards of good housekeeping. Often the floors are of soft lumber, with wide cracks between the boards, and no provision made for frequent and thorough cleaning. Blackboards and erasers are not infrequently laden with chalk dust. Dusty air is fully as dangerous to health and vitality as rebreathed air. Whether the teacher is directly responsible for the cleanliness of the room, therefore, as is still true in many rural schools, or whether a janitor is employed, it is a part of the teacher's business to see that the room is *clean and free from dust*.

This will necessitate the use of sweeping compounds, suitable brooms, oiled dusting cloths, etc., of as good quality as would be found in a modern home. To secure these things and see that they are properly used is one of the teacher's problems as manager.

**The pupils' standard of cleanliness and order.**—Every pupil should come to school clean and neat in person and clothing. Nothing less than this should be tolerated, both because of the interests of the school as a whole and for the good of the pupils directly concerned. A rigid requirement of orderly desks, well-arranged books and materials, and freedom from litter on the floor should be relentlessly enforced. Good housekeeping should be the rule, and the standard should first of all be set, of course, by the teacher in the care of his own desk, materials and belongings.

### QUESTIONS AND PROBLEMS

1. Are you troubled with mischief in your recitations? If so, can you locate the leader of the trouble? What do you judge is the cause of such mischief, lack of interest in the work, lack of class loyalty, lack of respect for the teacher, or some other condition?

2. Are your class-room signals simple and reasonable? Are they well followed? Do you find certain pupils who are constantly careless on such matters? If so, what measures have you taken to cure this fundamental defect of character?

3. As you consider the motives which control in your class-room order, do you think they originate chiefly in *your* command, or in the attitude and good will of the pupils? Contrast the ultimate effects on character of governing one's conduct because of an objective requirement, and governing it because of the demands of his own inner nature; i. e., of being good because one *has* to or because he *wants* to.

4. Compare the spirit of your class room with that of other class rooms you know. With your own ideal for it. What factors do you judge are necessary in order to improve the spirit?

5. Estimate your own poise and decision. Do you feel securely in command of your class-room problems? What effect has a feeling of inadequacy on your happiness? On producing fatigue and worn nerves? Do you worry? If so, analyze the elements that go into a condition of worry, and decide whether any good results. Do you *scold*?

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## CHAPTER XXII

### CLASS-ROOM MANAGEMENT AND MORAL CONDUCT

EVERY thoughtful teacher knows that the final outcome of education must be *character*, else the whole process has been a failure. And character is to be defined in *positive* instead of negative terms. Our youth must be trained not only to be good, but *to be good for something*. They must not only be able to resist temptation, but be willing to stand, aggressively if need be, for the right. They must not only know what constitutes high moral standards, but be so led in daily practise that such standards become the habit of their natures.

All the activities and relations of the school should lead to moral ends. Each study should bear its share of the responsibility. The personal influence of the teacher should contribute its part. The associations of pupils in their work and play should bring out moral lessons and values. The management of those class-room relations discussed in the preceding chapter will have a moral bearing. Certain other features of the class room lie even closer to the development of character; these will be briefly discussed in the present chapter.

#### *Misdemeanors*

As long as there are schools and children there will be misdemeanors. While there are misdemeanors there will be penalties. Dealing with the matter of misdemeanors and their punishment constitutes a very real and trying problem in many schools.

**What constitutes a misdemeanor.**—Misdemeanors in school may roughly be divided into two broad classes: (1) acts that in themselves are not wrong, but which hinder the work of the school; (2) acts that are in themselves fundamentally immoral. Familiar examples of the first type are whispering, writing notes, playing practical jokes, distracting the attention of others, being inattentive. Examples of the second type are bad language, dishonesty in work, destroying the property of others, lying or deceiving, stealing, etc.

From the beginning children should be brought to see the distinction in these two classes of acts: the first is wrong because *such acts injure the class* by hindering the best work; the second is wrong just because it is *wrong*, anywhere and all the time. This simple distinction, without any ethical analysis, is easily grasped by children, and it helps them to understand and see the justice of necessary regulations which otherwise might appear very arbitrary. A fourth-grade boy, when rebuked by his teacher for whispering to a neighbor, said with great earnestness, "Why, there isn't any *harm* in whispering!" The wise teacher answered, "Not the least harm the way you mean it, Tom; but does it *help or hinder* our work?" "I suppose of course it hinders," said Tom. This little incident may not have transformed Tom into an angelic pupil who from that time on needed no further attention to his conduct, but it did give him a valuable moral distinction. It broadened his idea of class-room *rights* and *wrongs*.

**The value of confession.**—A child who has confessed a wrong act has already gone far toward its atonement. Especially is this true if the confession is voluntary and prompted by the child's own conscience; for such a confession quickens the moral sense and strengthens self-control.

The pressure of group opinion is a strong incentive to

confession when it can successfully be brought to bear on the right side. In a certain school a boy had during an intermission accidentally broken a window while the teacher was out of the room. The other boys at once crowded about Joe with the question, "What are you going to do about it, Joe?" Joe answered, "She won't know who did it. I'll not tell." "But you've got to tell," the group argued. "You know Miss Jones told us we might play in here if we would be careful not to break anything. You broke it, now you've got to tell!" And Joe's group made him tell. It would have been better if Joe had had the moral strength to decide for himself that he must confess, but since he had not, it was well for him to learn the justice and compulsion of public opinion. Confession compelled by the teacher, even, is better than harboring a concealed wrong; but such a confession is often construed by the child as a necessary yielding to authority, and hence loses much of its moral effect.

**Accusation versus confession.**—The teacher should be very sure of his facts before he accuses a child of a wrong act. An unjust accusation may leave a wound that is long in healing, and is sure to cause the teacher a loss of respect and loyalty. And even if the teacher is sure of his case against the child it is still a thousand times better to lead the child to a confession. A culprit confronted by an accusation, or even by a threatening question, may in his fear and weakness tell a lie. If the teacher follows up the accusation or question with others still more insistent the child, having lied once, may easily lie a dozen times in succession, through seeking to corroborate his first statement. Beyond doubt many children are unintentionally *driven* into lying and deceiving by unwise grillings over minor misdemeanors. Much practise in sharp trickery and skilful evasion may be actually forced upon children by lack of wisdom in handling their faults.

Shall we then say that children must never be confronted with a direct accusation of their misdemeanors? This does not follow. But before such accusation is made the teacher must *be sure of his case*. He must then present the accusation in such a way as to allow no denial or evasion. But it is still better, as we have said above, to bring the child to the victory of a confession.

One teacher says, "Tom, did you break that window?"—"Now don't deny it!"—"Don't you know it's wrong to lie?"—"Now you might just as well own up." And poor Tom keeps getting deeper and deeper in the mire of falsehood and denial. A wiser teacher says pleasantly to Tom, "Tom, I wish you would tell me how it was about that window. I'm sorry you happened to break it." Thus encouraged, Tom will find it relatively easy to tell the truth. And even if he does not at once confess, no harm has been done the case by asking for Tom's version of the accident. The principle can not be too strongly emphasized that the successful disciplinarian is not the teacher who can break the child's false testimony down and fix the wrong act upon him in spite of denials. The good disciplinarian is the one who can *save the culprit from falsehood and help him achieve a moral victory*.

**Shall children tell on one another.**—A writer in *The Outlook* propounded the following very simple problem:<sup>1</sup> Two boys, called Bad and Good were one day out by the schoolhouse. Bad said to Good, "I'm going to throw this snowball and break the window." He did so. The teacher asked each pupil separately who broke the window. No one confessed. The teacher then asked the whole school together who broke the window. No one answered. The problem to be answered is (1) *What should Good have*

<sup>1</sup> H. E. Hall, *The Outlook*, Jan. 11, 1913.

done? (2) Should the teacher have *asked who broke the window?*

This simple moral problem aroused so great an interest that *The Outlook* received many hundreds of letters from men and women in all occupations—homekeepers, teachers, lawyers, judges, statesmen, ministers, laborers. The interesting point is that the writers differed radically on both questions. Some claimed that Good should have told on Bad, and others insisted that he should not. Some thought the teacher was right in asking the questions she put to the pupils and the school, and others thought she was unwise.

It is not our purpose here to attempt dogmatically to settle the disputed questions. Where opinions differ so widely the truth can not all be on one side. Certain points, however, would seem to be reasonably easy to reach agreement upon: We do not want our pupils to be tale-bearers. No one likes the tell-tale, and he is sure if the habit becomes chronic to develop a bad spirit toward other people. Pupils should therefore not be encouraged to report minor misdemeanors upon one another. Teachers should not ask for information that would require petty tale-bearing.

On the other hand, children should not be allowed to develop a false sense of loyalty to their group which leads them to shield one guilty of a grave offense. The spirit to be cultivated is *loyalty to the common good* before loyalty to the individual member. Children should therefore be encouraged and expected to report such offenses as endanger the morality or welfare of the school. Furthermore, they should develop the moral courage to tell on a fellow pupil when they think they ought.

Better than to tell on the culprit, however, is, as suggested in the preceding section, for his classmates to *bring him to confession*. One teacher wisely handled a difficult matter as follows: Coming into her sixth-grade room after an ab-

sence and finding a piece of statuary broken, she said quietly to the pupils: "Is there any one who would like to tell me that he broke the statue?" No one volunteered. Then she said to the school, "I think a good many of you must know who broke the statue. You remember it was given us by a friend of the school, who I am sure will be grieved that we have broken it. I think that those of you who know how the accident happened should see that the ones who are to blame make the loss good. That would be fair and would look much better for our class." There were no commands and no threats; only an appeal to justice and class loyalty. And it worked. That evening a delegation appeared at the teacher's desk and the spokesman said: "Harry and Mary (who were members of the delegation), wanted you to know that they broke the statue, but we were all more or less to blame; for we were chasing one another about the room. So we think that we all ought to help pay for the loss." This indeed was a true victory for all concerned, and one that ought to be more often duplicated in school-room discipline than it is.

### *Punishment of Misdemeanors*

A lesson which every child should thoroughly learn is that disobedience to law brings punishment. Nature early forces this lesson upon the attention of the individual. The babe touches the lamp and is burned. The boy eats the forbidden green apples and pays the penalty of pain and bitter doses. True, there are sentimentalists who say that children should never be punished by parents or teachers, for fear that it may hinder the child's "natural" development. But this position is contradicted both by common sense and experience. The child's natural tendencies may lead him very far astray. The great thing is to be sure that we punish *for the right things* in the *right way*. The following four kinds of pun-

ishment may be considered: (1) *impulsive*, or resentful, punishment; (2) *retributive*, or revengeful, punishment; (3) *deterrent*, or protective, punishment; (4) *educative*, or reformatory, punishment.

**Impulsive, or resentful, punishment.**—No small proportion of the punishment given children in the home, and, less often, in the school, is the result of unconsidered impulse, irritation or resentment. The parent or the teacher happens to be tired and irritated by annoying difficulties met in the day's work, and at an inopportune moment a child commits a fault. The punishment that follows is often calculated to relieve the emotional tension of the one who does the correcting rather than to deal rationally with the fault itself. Witness the fact that a prank played by a child to-day may be taken as a joke, while to-morrow it may bring sharp rebuke and punishment. It is hardly necessary to urge that punishment of this type is a mistake and a failure in the upbringing of a child, whether it be practised in the home or the school. The child easily understands that it is more the whim of the one in authority than the nature of the deed that determines the punishment, and so does not connect it with justice or the need of reform. The teacher should be very sure in administering punishment that the hidden motive back of it is not some emotional irritation of his own.

**Retributive, or revengeful, punishment.**—The older idea of punishment was for revenge and retribution. If one did wrong, of course he must suffer in order that the one wronged might get even. An eye for an eye, and a tooth for a tooth. Suffering imposed must be paid for with an equal amount of suffering. Thus do the "blood feuds" among primitive peoples arise, and thus are they kept up. Thus are the demands of a cruel and abstract "justice" satisfied.

Such a concept of punishment has no place in the govern-

ment of a school. Individuals, large and small, will probably long retain hidden deep in their natures a tendency to "pay back" one who wrongs them. But the larger control of the group over its members, or the control exercised by one higher in authority over one below him, should be above such motives and practises.

**Deterrent, or protective, punishment.**—Much of the punishment inflicted by society upon its criminal members is for the purpose of deterring others from committing like offenses. No doubt many a person who is to-day living a reasonably moral life owes his allegiance to right paths to the fact that he fears to stray into forbidden ways because he knows punishment awaits him at the end of such a course. Thus society protects itself.

Yet we must say that no person should be punished just that potential wrongdoers may have a lesson. The individual himself is the first concern. To inflict unjust or unwise punishment on a pupil that the school may be warned is to wrong the one punished, and injustice never in the end teaches a lesson for good. Let the school learn its lesson from the punishment of offenders, but *make sure that the offenders themselves are reformed* by punishments that are just and suitable.

**Educative, or reformatory, punishments.**—The ideal of all punishment or correction is to enable the one punished to rise above the need for this kind of control. This is to say that all punishment should in the end be educative. It should result in a decreasing necessity for punishment. To do this it must develop in the child the power and will to govern his own conduct aright.

Punishment to be educative should as far as possible grow out of the wrong act as a natural result. This is but letting the deed return to the doer, and children can not learn too early that what one sows he later must expect to reap. Nor

will the child fail to see the justice of such punishment and profit by it.

The following incident illustrates the application of the educative principle of punishment: Frank was making ready to fill his ink-well from a larger bottle. The teacher suggested that he hold the two over the sink during the operation so that he might not endanger the new floor. Frank answered, "Oh! I can fill it without spilling a drop." But alas! a great splash stained the floor. The teacher was at Frank's side in a moment, all sympathy and kindness. She helped him clean up what they could, and offered no word of reproach. When they had finished their task a great black blot still remained. The teacher then said, "Frank, I think it will take a good mechanic to remove that stain. Suppose you stop in at Mr. Johnson's shop on your way home and ask him to come and do the work. Also find out what he will charge, and arrange for the payment." "Must I pay him?" asked Frank. "Why, who should pay him, if not you?" asked the teacher. "I'm afraid it will take all the money I've been saving for new skates," wailed Frank. "I'm very sorry," comforted the teacher, "but of course people must pay for damage they do to the property of others." So Frank paid for the job, and received one of the most valuable lessons a boy can learn—that *the deed comes back to the doer*.

It will not always be possible of course to make the penalty so accurately fit the act as in the case above. But the teacher who believes in making punishment *educative* will find many ways of allowing the punishment to consist of making good the damage, or making it impossible for further damage to occur. Noisy whisperers or unduly mischievous culprits should not "stay in at recess"; they should study in a separate room or distant corner by themselves until they are willing to become *true* members of their group.

The lazy or inattentive child may have to stay after school to do his work. The careless child must repeat the poorly done lesson. The quarrelsome child may not be allowed to mingle with the others until he is willing to keep the peace. The child who uses impure speech may be denied associations with others until he is willing to reform.

**Corporal punishment.**—Shall corporal punishment be inflicted? Many teachers will unhesitatingly say *no*. Many school boards have wholly prohibited corporal punishment in their schools. The writer will not defend corporal punishment. Yet he does not believe that it should be wholly prohibited (and the fact advertised) in the school any more than in the home. The fact that a whipping *might* follow some contemplated wrong act has kept more than one boy from its performance.

Corporal punishment, if used at all, should come only as a last resort. To whip a boy for swearing, for lying, for stealing, will hardly reform him. Reformation in these deeply moral lines must arise from inner impulses, stimulated and encouraged by the wise tact and appeal of the teacher. Whipping for rebellion or disobedience should not be resorted to until more natural educative punishments have been tried. When corporal punishment is used, it should be sharp and severe enough that there will be no desire to have it repeated.

**Delayed punishments.**—Some teachers advocate delaying punishment until the child has had time to consider the offense. This should not be carried too far, however. Many children are rendered so miserable by the worry over delayed punishment that they actually become ill. Probably only in cases of anger or stubborn rebellion is much to be gained by delay.

Children should come to know that real offenses will surely be followed by punishment; that this punishment

will be serious; that it will be just without fear or favor; that it will probably grow out of the offense and seek to compensate for it; that the teacher will be their friend while punishing, but that he will punish if necessary.

### *Incentives*

Professor James tells us that few men ever exert their full powers or use all the ability they possess. He speaks of "deeper levels" of power which it is our business as teachers to tap and set at work. To do this, we must use adequate incentives for the calling forth of effort and enthusiasm.

**Competition as an incentive.**—From childhood to old age every person responds to the impulse to "beat" some one else, whether it be in work, in play or in position and honors. Contrariwise, no one likes to be beaten, and we often find it easier to excel when we are "paced" by able competitors. These facts suggest the possibility of employing the competitive impulse as a class-room incentive. It has been suggested earlier in the text how competitive games and exercises can be used to advantage in various studies.

Competition should, however, be dual in its nature: not only should each pupil have an opportunity to compete with his neighbor, but also *with his own record*. The child who makes the largest percentage of *improvement* is more deserving of praise than the one who simply comes out ahead. For coming out ahead may only mean that the child springs from unusually good ancestry, and has not needed greatly to exert his native powers. But to show continuous improvement usually requires intelligent and earnest effort.

**The giving of prizes.**—The giving of prizes is fol-

lowed less to-day than in former years, but is still largely in use in many schools. There are three grave objections to the giving of prizes to individuals: (1) the offer of the prize usually does not stimulate any considerable number to compete for it; (2) it usually turns out to be a prize for good hereditary ability instead of for personal effort; (3) it furnishes rather a low motive for effort and achievement.

A better type of prize is that offered by a small western school on the following plan: If the teacher is able at the end of the month to report a certain high grade of work and conduct for her room, the children and the teacher have the last afternoon of the month for a special holiday, with picnics, excursions and good times in general. But all must be up, and each is commissioned not only to see to his own record, but also to look out for any delinquent classmate who may seem to need assistance or warning. This is the best of training, for it cultivates a sense of personal and social responsibility among the children. It also brings a powerful public sentiment to bear on every child. No one *dares* fail, for it would bring down the reproach and wrath of the whole school on him. This is a *joint* prize that all may help win. And it proves a fine incentive with nothing of the selfish about it.

### *The Management of Examinations*

The management of examinations constitutes an important problem, even in the elementary school.

**The purpose of examinations.**—Much harm has been done in elementary schools by treating examinations for grade children on so nearly the same basis as for pupils in the high school or college. That is to say that the examinations are used *too much as a means of determining*

*"passing" and promotion, and too little as an instrument for teaching and learning.*

Children of all stages above the lowest grades need to be "examined" in the sense of being required now and then to organize what they have learned, and to test what they know and can do. The results of these examinations may be used to help the teacher decide concerning grade marks and promotions. But this is, for the grades at least, incidental and should not be allowed to interfere with the broader purpose of the examination. No teacher needs to give her pupils a formal examination to decide whether they are able to do the next higher work. Her best judgment on this point develops from her daily contact with the children in their classes. But every teacher can to great advantage employ the examination as a teaching device to compel careful reviewing and organizing of material.

For these reasons examinations in the elementary school should come at convenient stages in the progress of a study, and *not at stated intervals*. The time to organize, review and fix a section of study is at its completion, and not when the calendar happens to show a certain date. True, a later examination may again give occasion to review and re-fix important material examined upon when the topic is completed, but the stated examination date more often hinders than helps in arranging the best time schedule. In most subjects the examinations should probably come every four to eight weeks, depending on the completion of sections of the work.

**Exemption from examinations.**—The custom is followed in so many schools of allowing those who reach a certain high daily average to be excused from examination that it seems ungracious to criticize it. Yet this practise has much to condemn it. First of all it classifies the ex-

amination as a penalty, whereas it ought to be looked upon as a legitimate and necessary part of the school work. Again, many children who possess a certain brightness and quickness, but who do not thoroughly understand or easily retain what they learn, may secure high daily marks and so escape the examination. But children of this type are the very ones who most need the review and reorganizing of material which comes from being examined. They should not be deprived of the best part of the work to be done upon their subjects. Far better reward those who have reached a certain grade in their studies, *including the examinations*, by giving them a holiday or excursion.

**Examinations and worry.**—Examinations are used by some teachers as a kind of whip over the pupils in order to hold them up to their work. A child comes to class with the lesson unprepared, or he fails in some exercise of the recitation, and the teacher says, "Remember there is an examination coming!" Now this would be all right for the slothful and over-placid child. But he is not the one such a threat stirs. The response to the threat comes from the highly sensitive, timid or nervous child who has the tendency to worry. Why can we not get away from the traditional view of examinations, take the unnecessary dread and fear out of them, and treat them on a common-sense and rational basis? Then we shall use them not as penalties but as opportunities.

**Grading, and utilizing examination marks.**—Examination papers should be carefully graded and the papers returned. The curiosity to know one's grade is natural, and this curiosity should be utilized. The examination should supply the basis for a recitation following the return of the papers, and every question be fully discussed, its answers reviewed and errors and misunderstandings removed.

Not to do this is to lose one of the best effects of the examination. The plan followed in many schools of giving back only the grades, or giving the papers back only to have them thrown at once into the waste-basket without review, is unpardonable waste of opportunity.

On the whole, teachers probably grade their examination papers too high. There is also a tendency not to make difference enough between the grades of the poorest and the best pupils.

**Examinations and honesty.**—Our examination system undoubtedly has much to answer for in undermining the honesty of pupils. In some schools the examination periods are a battle of wits between the teacher, who is seeking to prevent dishonesty, and certain pupils, who are seeking to secure credit to which they are not entitled. It is not meant that all children are dishonest in their examinations. But enough are to make the problem involved constitute one of the gravest moral questions in our present school administration. No child can grow up through a system where he constantly sees or practises small evasions, bright tricks and petty thefts without having his conscience in some degree weakened and his moral sense dulled. The moral qualities of the class room carry over to matters outside the school.

The teacher can guard the honesty of pupils in examinations in at least three different ways: (1) He can remove unnecessary temptations by so arranging that pupils sitting adjacent to one another are not writing on the same questions. He can maintain such oversight (without spying) that the grosser forms of cheating can not be practised. This can all be done without casting reflections on the honesty of the pupils, the explanation being given that the arrangements are for the purpose of making it easy to be

honest and fair. (2) The teacher can appeal to the honesty, loyalty and better nature of his pupils. This may not secure response from all, but will form a very large proportion if the appeal is tactfully made. (3) The teacher can provide questions and exercises of such nature for the examination that opportunities to use surreptitious material are largely eliminated.

### QUESTIONS AND PROBLEMS

1. Try making a list of ten leading qualities of character, as honesty, loyalty, etc. Then estimate the degree to which these are being cultivated in your class room.

2. Think over the misdemeanors that have been most annoying in your school. Under which of the two classes mentioned in the chapter do most of them come? Is the distinction clear in the minds of your pupils?

3. Should the confession of a wrong deed lessen the punishment? Do you try for confessions, rather than to start with accusations? Have you tried making the *school* feel responsibility for misdeeds of offenders among their number? Do you think this will work if the spirit of the school is not good?

4. Try making a list of the different school incentives you are employing. Of others that might well be used. Do you see a way by which you might offer a "universal" prize as an incentive?

5. Do you make your examinations serve as an instrument for teaching and learning, or chiefly as a basis for promotions? Do your examinations lead to cheating? Do you make good use of the answers written by the pupils as the basis for further instruction? Do you make the questions so that they will require a review of the *important* things rather than small technicalities? Do your pupils dread the examinations?

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